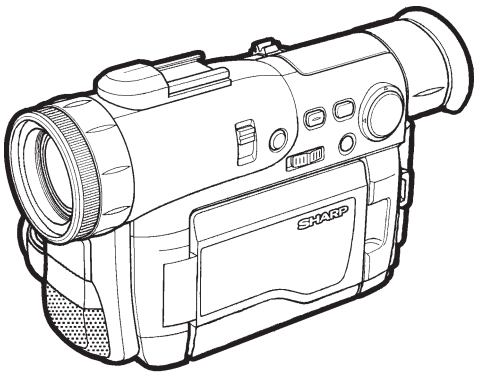
SHARP SERVICE MANUAL

S31Q8VL-WD250

LIQUID CRYSTAL DIGITAL CAMCORDER PAL



MODELS VL-WD250S/H/E VL-WD450S/H/E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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SERVICE MANUAL LIQUID CRYSTAL DIGITAL CAMCORDER PAL MODELS VL-WD250S/H/E/WD450S/H/E

1. SPECIFICATIONS

Signal System:	PAL standard
Recording System:	2 rotary heads, helical scanning system
Cassette:	Digital VCR Mini DV video cassette
Recording/Playback Time:	90 minutes (DVM60, LP mode)
Tape Speed:	SP mode: 18.831 mm/second LP mode: 12.568 mm/second
Pickup Device:	1/4" (6.4 mm, effective size: 4.5 mm) CCD image sensor (with approx. 540,000 pixels including optical black)
Lens:	26 × optical/780 × digital power zoom lens (F1.6, f=3.5-91.0 mm), full-range auto focus
Lens Filter Diameter:	37 mm
Viewfinder:	Electronic LCD color viewfinder
Monitor:	2.5" (6.3 cm) full-color LCD screen (TFT active matrix)
Microphone:	Electret stereo microphone
Color Temperature Compensation:	Auto white balance with white balance lock
Minimum Illumination:	1 lux* (with gain-up, F1.6)
Still Image Compression System/Recording Format:	VL-WD450: JPEG base line conformance/JPEG (Exif2.1)
Still Image Recording Medium:	VL-WD450: 3.3V type SmartMedia™ card (SSFDC)
Power Requirement:	DC 7.4 V
Power Consumption:	4.0 W (during camera recording using the viewfinder in Full Auto mode with zoom motor off) 4.8 W (during camera recording using the LCD monitor in Full Auto mode with zoom motor off and backlight in normal mode)
Operating Temperature:	0°C to +40°C
Operating Humidity:	30% to 80%
Storage Temperature:	–20°C to +60°C
Dimensions (approx.):	93.7 mm (W) × 118 mm (H) × 186.5 mm (D)
Weight (approx.):	VL-WD250: 710 g VL-WD450: 715 g (without battery pack, lithium battery, video cassette and lens cap)

AC Adapter/Battery Charger (UADP-0321TAZZ)

Power Requirement:	AC 110-240 V, 50/60 Hz
DC Output:	7.3 V
Power Consumption:	23 W
Dimensions (approx.):	69 mm (W) × 43 mm (H) × 113 mm (D)
Weight (approx.):	160 g

SmartMedia™ Card (VL-WD450E/H Only)

Memory Capacity:	8 MB
Memory Type:	NAND flash EEP-ROM
Power Requirement:	3.3 V
Operating Temperature:	0°C to +40°C
Storage Temperature:	–20°C to +65°C

Specifications are subject to change without notice.

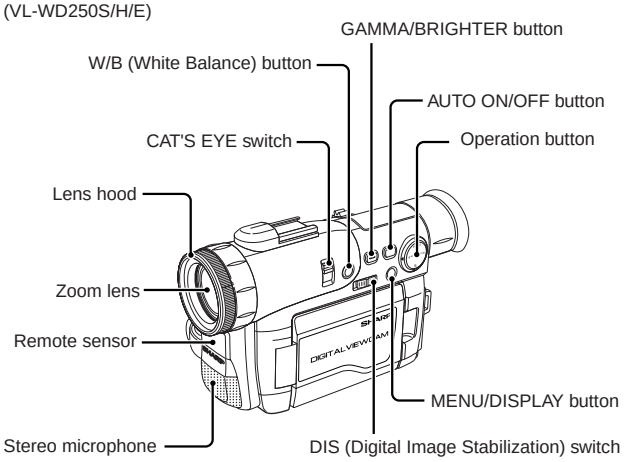
*Minimum illumination: Since there is no widely accepted testing procedure for determining minimum illumination capability, lux ratings are comparable only between models from the same manufacturer.

2. PART NAMES

For details on the use of each control.

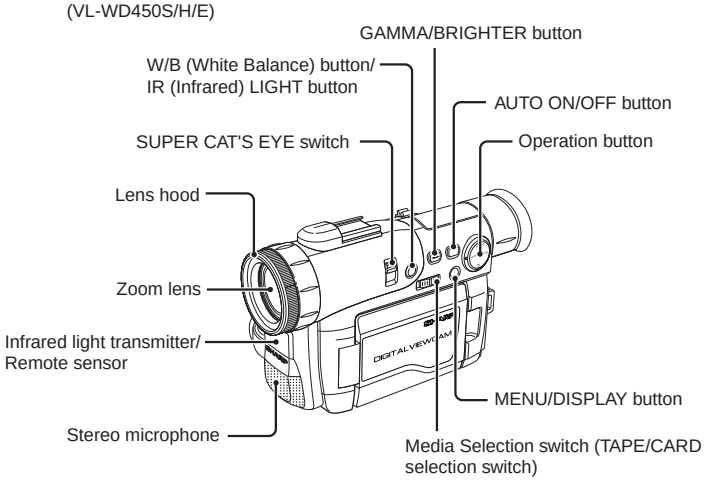
Left view

(VL-WD250S/H/E)

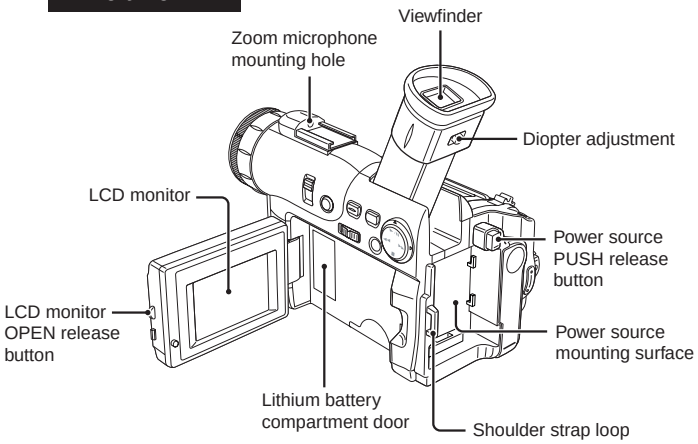


Left view

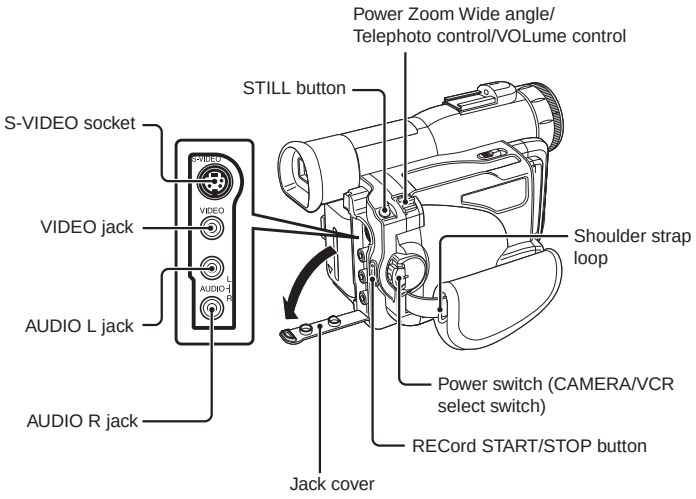
(VL-WD450S/H/E)



Left view

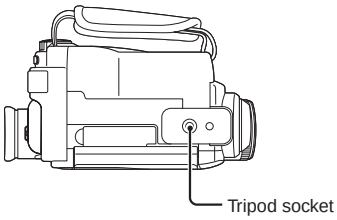


Right view

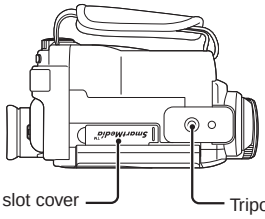


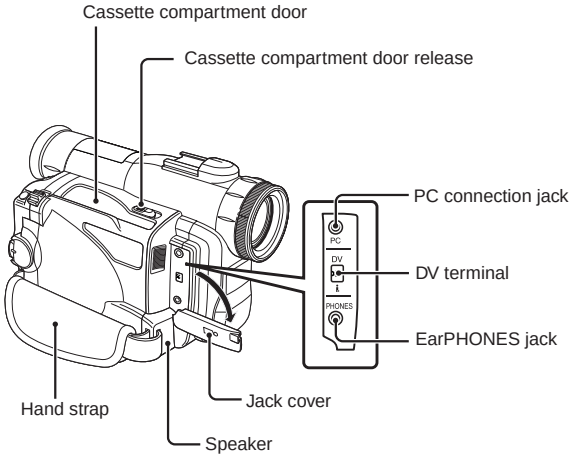
Bottom view

(VL-WD250S/H/E)



(VL-WD450S/H/E)



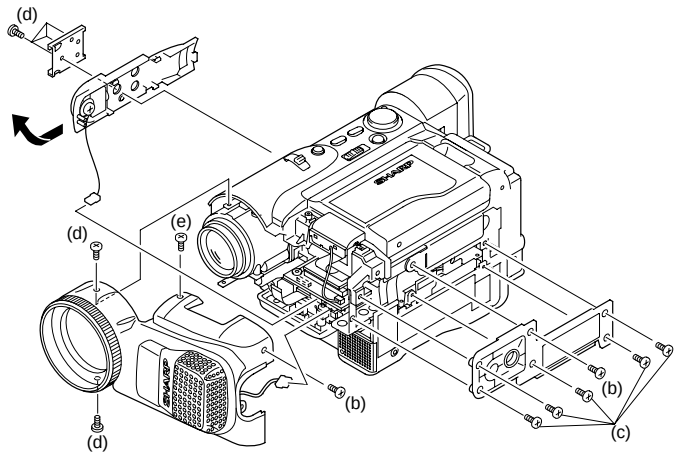


3. DISASSEMBLY OF THE SET

Note:

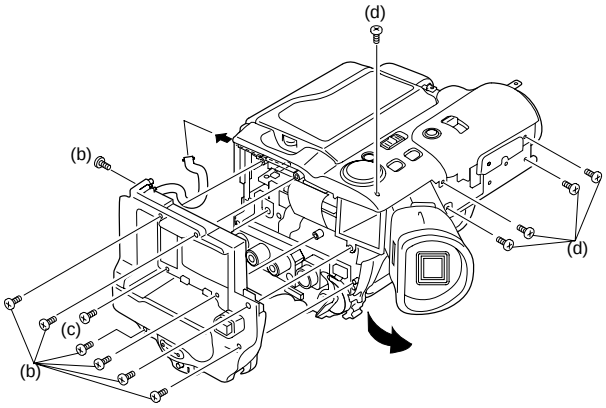
Before removing the cabinet, turn off the power supply, and ascertain that the battery have been removed.

1.



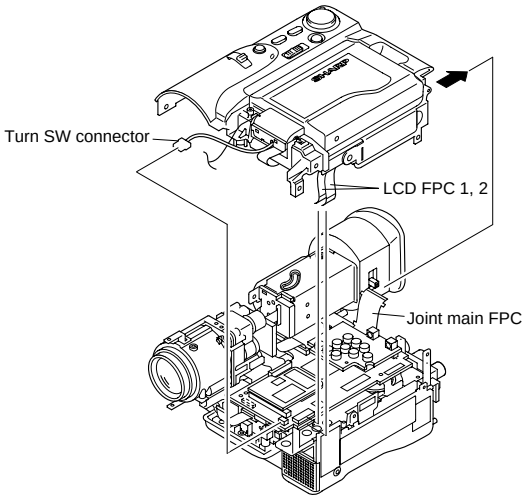
1) Remove the screws ((c)XiPSF17P04000)(5 pcs.) and ((b)LX-HZ0063TAFF)(1 pc.) on the bottom cover to remove the bottom cover.
2) The screws ((d)XiPSN17P04000)(2 pcs.), ((b)LX-HZ0063TAFF)(1 pc.) and ((e)LX-HZ0063TAFN)(1 pc.) on the front cover, and open the front cover. Then disconnect the connector of the microphone.
3) Remove the screws ((d)XiPSN17P04000)(3 pcs.) fixing the shoe angle to remove the shoe angle. Remove the connector of the zoom microphone which is located in the front, and then slide the top side cover forward and lift it up to remove it.

2.



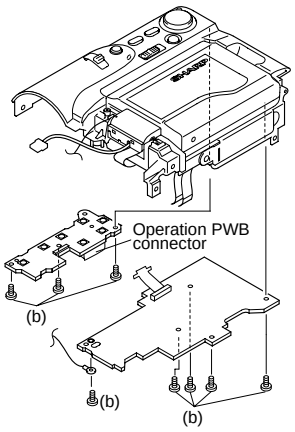
1) Turn the V/F, and then remove the screws ((b)LX-HZ0063TAFF)(7 pcs.) and ((c)XiPSF17P04000)(1 pc.) fixing the battery cover. Disconnect the connector of the battery terminal on the bottom.
2) Remove the screws ((d)XiPSN17P04000)(4 pcs.) on the top side and the screw ((d)XiPSN17P04000)(1 pc.) on the side.

3.



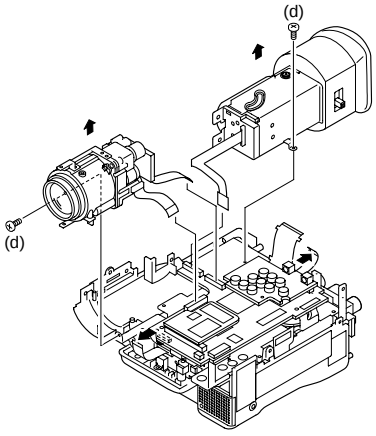
1) Disconnect the connector of the turn SW.
2) Remove the joint main FPC.
3) Remove the LCD FPCs (2 sheets), and lift up the cabinet B ass'y.

4.



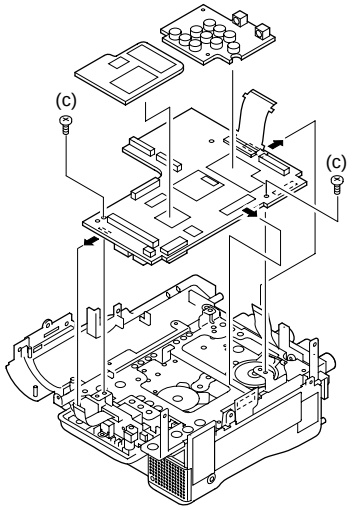
1) Remove the screws ((b)LX-HZ0063TAFF)(5 pcs.) to remove the joint PWB.
2) Disconnect the connector of the operation PWB.
3) Remove the screws ((b)LX-HZ0063TAFF)(3 pcs.) to remove the operation PWB.

5.



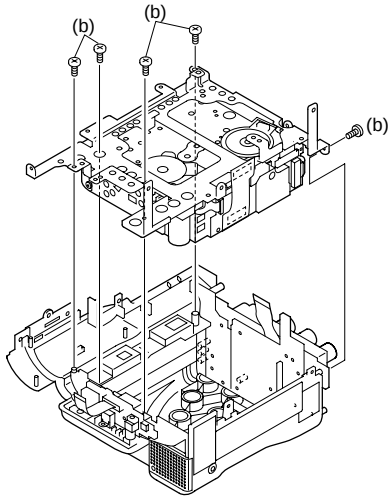
1) Disconnect the connectors (2 pcs.) of the lens, remove the screw ((d)XiPSN17P04000)(1 pc.), and lift it up.
2) Disconnect the connector of the V/F, remove the screw ((d) XiPSN17P04000)(1 pc.), and lift up the V/F unit to remove it.

6.



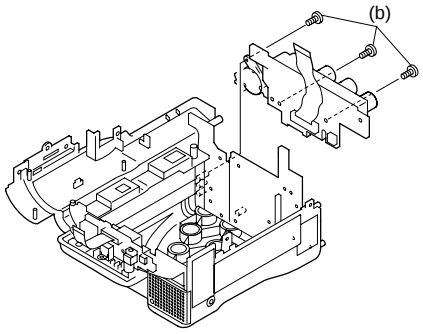
1) Disconnect the B TO B connector of the DV main FPC, disconnect the front and rear FPC connectors, and remove the screws ((c)XiPSF17P04000)(2 pcs.) to remove the main PWB.

7.



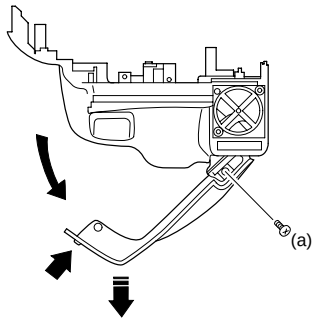
1) Remove the screws ((b)LX-HZ0063TAFF)(5 pcs.), and remove the mechanism together with the mechanism PWB fitting angle.

8.



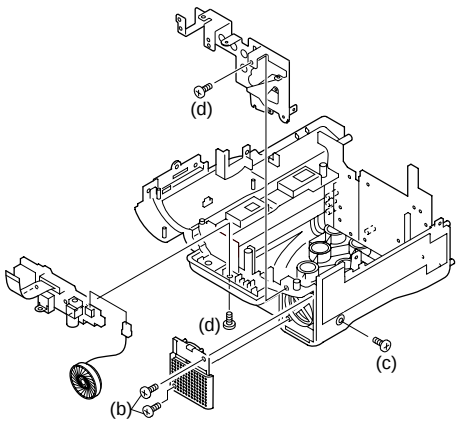
1) Remove the screws ((b)LX-HZ0063TAFF)(3 pcs.) to remove the zoom switch unit and AV terminal.

9.



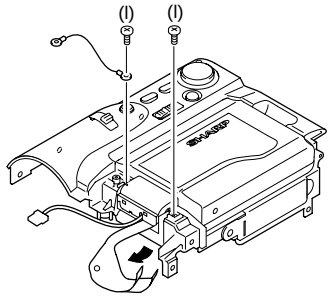
1) Remove the screw ((a)LX-BZ0221TAFC)(1 pc.) to remove the cassette lid.

10.



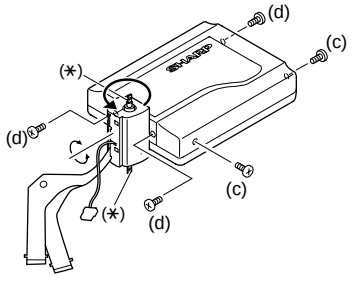
1) Remove the screws ((b)LX-HZ0063TAFF)(2 pcs.) to remove the speaker cover.
2) Disconnect the connector of the speaker to remove the speaker.
3) Remove the screws ((d)XiPSN17P04000)(2 pcs.) and the screw ((c)XiPSF17P04000)(1 pc.), and remove the DV terminal PWB together with the stay front ass'y.

11.



1) Remove the screws ((l)LX-HZ0017TAFF)(2 pcs.) to remove the LCD ass'y.

12.



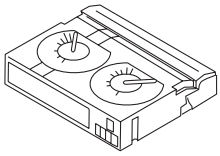
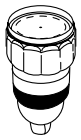
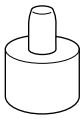
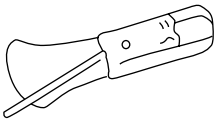
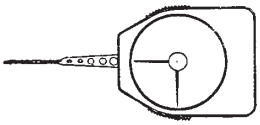
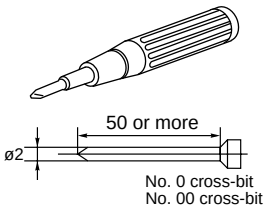
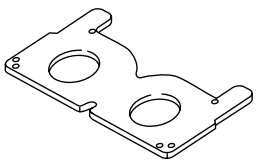
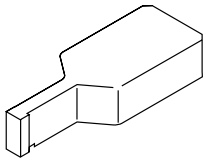
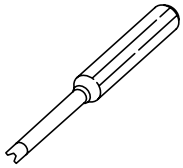
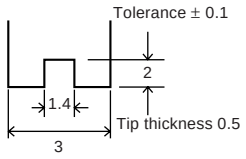
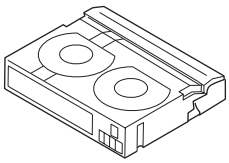
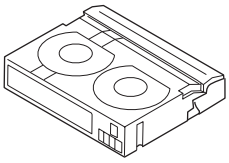
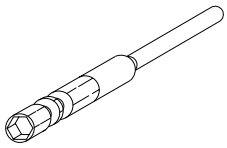
1) The shaft (* section) of the LCD tilt unit is rotated in the arrow direction 90°.
2) Turn the LCD tilt unit so as to verticalize it to the LCD cabinet.
3) Remove the fixing screws ((c)XiPSF17P04000)(2 pcs.) and ((d)XiPSN17P04000)(3 pcs.).

4. MECHANISM ADJUSTMENT JIGS AND PARTS

4-1. Mechanism check adjustment jigs

Configuration
1. Name
2. Part No.
3. Code
* Model, Uses Remarks

<Note: The entries of list>

 1. PB-use cassette Torque meter 2. 9DASD-1015 3. DB * 1mN·m/1.5mN·m	 1. Torque gauge 2. JiGTG0045 3. CN * For use in VS-REW winding torque measurement.	 1. Torque gauge head 2. 9EQTGH-DH5000 3. BW * For use with the following torque gauge.	 1. Tension gauge 4N 2. JiGSG0400 3. BK * For measurement of pinch roller pressure.	 1. Dial tension gauge 2. 9DAPTG-10-10W 3. CA * PTG-10
 1. Torque screwdriver 150mN·m 2. JiGTD1500RTDH 3. CB	 1. Master plane 2. 9EQMP-VLPD1 3. CL * For checking reel base height.	 1. Height adjustment jig 2. 9DAHG-PD1 3. BZ * For height adjusting.	 1. Height adjustment screwdriver 2. 9EQDRiVER-DH5 3. BC * For guide roller adjustment.	* For Tu guide adjustment. * For T roller adjustment. * Bit shape (see figure below). 
 1. Alignment tape – (I) 2. VR3-GAZXS 3. CF * For tape running adjustment.	 1. Alignment tape – (II) 2. VR3-JPZQS 3. CG * For SW point adjustment. * 90ADVC-TAPE PAL can use, too.	 1. For hexagon nut opposite side 3mm bit. 2. 95CM22001 3. BL * For S guide hexagon nut installation.	<Miscellaneous> (1) Slide caliper (2) Precision screwdrivers (Phillips head and slotted) (3) Radio needle-nose pliers (4) Tweezers	

4-2. Parts for regular periodic inspection and maintenance

Configuration
1. Name
2. Part No.
3. Code
* Model, Uses Remarks

<Note: The entries of list>

1. Oil Cosmo Hydro HV22 2. 9EQ-Oil-HV22 3. AE * Cosmo Petroleum K.K.	1. Cleaning paper 2. JiGDUSPER 3. AP * DUSPER ∑ (SIGMA) (ozu Co., LTD.)	1. Grease: Moly Coat YM-103 2. 99FGREASE-YM103 * Dow craning	1. Cleaning liquid: industrial-use ethyl alcohol * Commercially available item
		1. Screw lock (1401B) * Three Bond	1. Extremely thin cotton swab * Commercially available item

<How to make jigs for mechanism checking and adjustment>

(1) Reel hub for back tension measurement (Fig. 1)
   1) Obtain a commercially available cassette tape reel hub. (Disassemble the cassette tape and remove the tape from the reel hub.)
   2) Paste one end of a string (about 20cm long) to the reel hub with (for example) cellophane tape.
   3) Paste the weight of about 0.21N on the upper side reel hub.

(2) String for use in pinch roller snap-fit force measurement (Fig. 2)
   1) Obtain an approximately 20cm length of commercially available string.
   2) Tie the 2 ends together to form a loop.

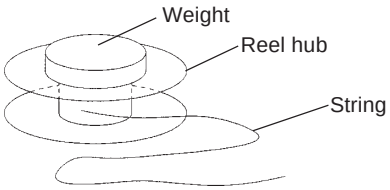


Fig. 1

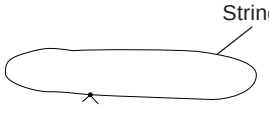


Fig. 2

5. INSPECTION AND MAINTENANCE ITEMS AND INTERVALS

In order to keep the mechanical section always in good condition, perform the following inspection and maintenance at regular intervals. In addition, after repair, perform the following maintenance items regardless of how long the user has been using the unit.

5-1. List of inspection and maintenance items

○ • • • Replace. □ • • • Clean. △ • • • Lubricate. ★ • • • Check.

	Inspection and maintenance location	Time of use (h) 500	1,000	1,500	2,000	3,000	Symptoms that indicate need for maintenance	Remarks
Tape running system	Tape running section (see section 7-3)	□	□	□	□	□	• Block-type noise • Head hole clogging • Tape damage	**Note:** Replace the drum ass'y if the video head is cleaned but the envelope still does not appear. (When the envelope is normal, refer to "10. USEFUL TIPS".)
	Drum section, Video head (see section 7-3)	□	□	□	□	□		
		<Rollers> • Replace if there is anything abnormal in the rotation, or if there is run-out (that becomes large). <Other than the above> • Clean the section that contacts the tape (especially the lower drum helical section). Use the specified cleaning liquid.						
Drive system	Timing belt	—	★○	—	★○	★○	• The tape fails to run. • The tape becomes slack. • Block-type noise • Abnormal noise	• Replace if there is anything abnormal.
	Pinch roller	□	□	□	□○	□		
	Capstan motor	—	○	—	○	○		
	Swing arm S reel base, Tu reel base	—	★○	—	★○	★○		
	Center pulley shaft Intermediate pulley shaft Swing arm boss Intermediate gear A shaft, Intermediate gear B shaft	—	△	—	△	△	• Abnormal noise	• Lubricate with oil. [Oil] Cosmo Hydro HV22 **Note:** Apply oil to the shaft, then wipe lightly with a cloth.
	Loading motor Mode switch	—	★○	—	★○	★○	• Cannot eject. • Fails to enter a mode.	• Replace if anything is abnormal (including the noise).
Performance checks	Abnormal noise	★	★	★	★	★	• The tape fails to run. • The tape becomes slack. • Tape damage • The play-back image is abnormal.	• Replace any part that fails to perform within the standard.
	PB · VS/R winding torque	—	★	—	★	★		
	PB · VS/R · loading back tension Tu reel base ratchet torque S reel base no-load torque	—	★	—	★	★		

[Oil] Cosmo Hydro HV22 [Screw lock] Three Bond 1401B
[Grease] Moly Coat YM-103 [Cleaning liquid] Industrial-use ethyl alcohol

5-2. Precautions

(1) When replacing any part, always replace the cut washer that was removed with a new one.
(2) This mechanism does not have control adjustment. If the control cannot be set as required, clean and or replace parts.
(3) On the oil
  a) Always use the specified oil. (Using another kind of oil can cause various kinds of trouble.)
  b) Always use clean oil, without any mixed-in dirt, to lubricate bearings. (Using oil with dirt mixed in can cause the bearings to wear or to stick.)
  c) One drop of oil is the amount shown in the Fig. 1, on the point of a pin.
(4) Perform circuit repair, tape running adjustment, etc. with the cassette controller assembly attached to the mechanism.
(5) When operating the mechanism separately, apply voltage to the loading motor. However, the terminal voltage must be DC3V~4V.
  (When the mechanism is connected to the main PWB, do not apply external voltage to the loading motor. It may cause a trouble.)
  (Forcing the gears to turn by hand entails danger of breakage.)
  If the mechanism is separated from the unit, the capstan motor may rub and be damaged if spacing under the mechanism is inadequate.
(6) To install the cassette controller, push section A in the Fig. 2. Do not push anything else.
(7) Do not deform any of the mechanical parts.

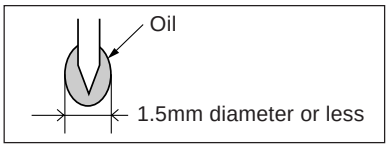


Fig. 1

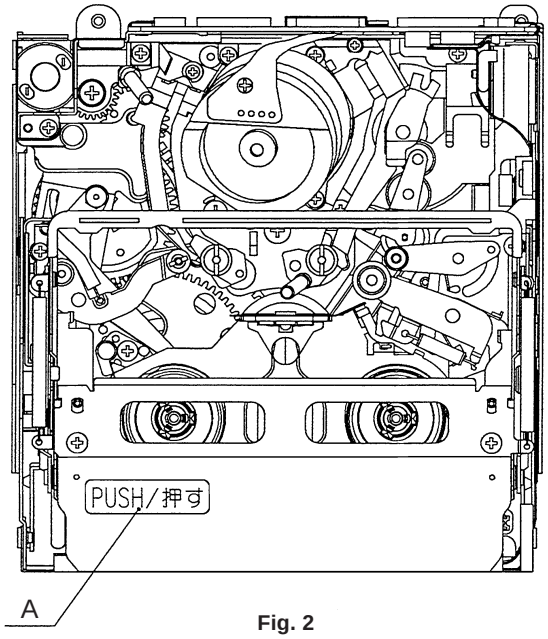


Fig. 2

6. MECHANICAL ADJUSTMENTS AND CHECKS

The items discussed here relate to general on-site servicing (field servicing). Adjustments and replacements that require sophisticated facilities, jigs and technology are omitted.
In addition, in order to maintain the characteristics that the unit has when it is new, not only are inspection and maintenance necessary, but it is absolutely necessary that, for example, the tape not be damaged, and always use jigs for adjustments that require them.

<Precautions>
(1) Always set the power supply and state of the unit as follows Notes for mechanism adjustments and checks.
- AC adapter used, with cassette controller assembly
- AC adapter used, without cassette controller assembly (Independent Mechanism)
- DC3V, without cassette controller assembly (Independent Mechanism)

(2) When the mechanism is connected to the main PWB, do not apply external voltage to the loading motor. It may cause a trouble.
(3) Always run the tape with the cassette controller assembly attached.

6-1. Checking the playback (recording) winding torque

AC adapter used, with cassette controller assembly

(1) Set the torque cassette with the cassette controller assembly attached, then, in SP recording mode (playback mode if a signal has already been recorded in SP mode on the tape), confirm that the torque on the winding side is within the standard.
<Winding torque standard in record (playback) mode>
(If there is torque ripple, read the center value.)
0.70 +0.4/-0.3mN·m, ripple 0.5mN·m or less

6-2. Checking the rewinding playback (VS-REW) winding torque

AC adapter used, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly, press the DOWN switch, using the adhesive tape and referring to 8-3, operate in the TEST mode (T01) to rewind, and set the rewinding playback (VS-REW) mode.
(2) Set the torque gauge on the S reel base, press the front end of tension post with your finger in the arrow A direction so as to ascertain that the winding torque is as specified. (Check without rotating the torque gauge.)
<Rewinding playback (VS-REW) winding torque standard>
(If torque ripple exists, read its center value.)
1.6 ± 0.6mN·m, ripple 0.6mN·m or less
(3) After checking the winding torque remove the torque gauge, and remove the adhesive tape used in item (1) above (refer to 8-3). The STANDBY mode is set automatically.

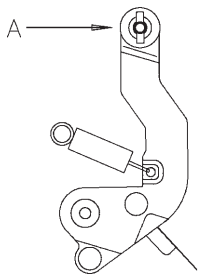


Fig. 1. Removal of tension band when measuring the rewinding playback (VS-REW) winding torque

6-3. Checking of reel base height

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly (refer to 8-2).
(2) Referring to 8-1, apply DC3V to the loading motor and put the system into playback mode.
(3) Taking adequate care so that the master plane does not contact drum, running parts (guide roller, etc.), or the MIC contacts. Fit the master plane holes to the 2 guides (A and B) in Fig. 2.
(4) Confirm that the heights of the S reel base reel receiving surface and the Tu reel base reel receiving surface below the master plane top surface are within the set values, using, for example, a slide calliper (Fig. 3).
When checking the S reel base height, press the front end of tension post in the arrow A direction with your finger to release the tension band, and then check the height in this state (Fig. 1).
(5) If the height is not within set values, replace the washer under the reel base, and adjust as specified.
Note: After the adjustment, make sure that the reel bases rotate smoothly.

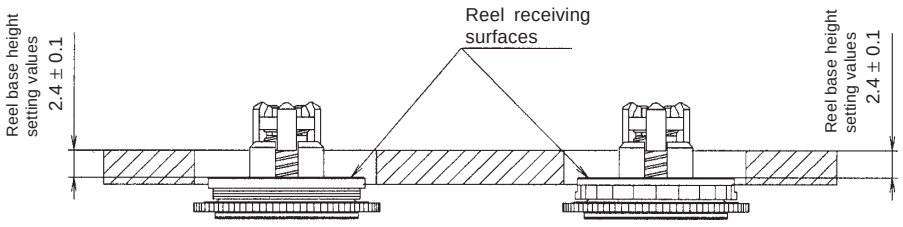


Fig. 3

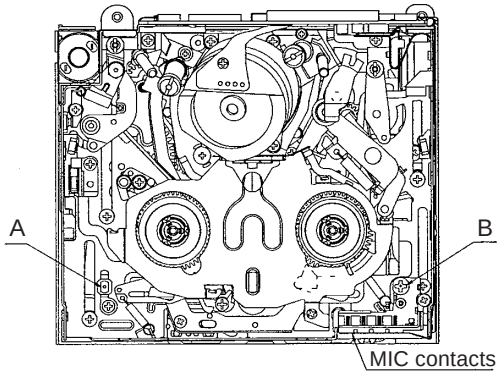


Fig. 2

6-4. Back tension torque check and adjustment in record (playback) mode

AC adapter used, with cassette controller assembly

(1) Checking

Set the torque cassette (SD-1015), and make sure in the SP record mode that the supply side torque is within the standard shown below (or in the playback mode for the tape on which the signal has been SP-recorded).

<Standard>

(If torque ripple exists, read its center value.)

0.7 ± 0.1mN·m

(2) Adjustment (Fig. 4)

If the value is out of standard range, adjust, using the screw 1 shown in Fig. 4.

1. Loosen the screw 2 slightly.
2. Adjust to turning the screw 1. When back tension is too high, turn the screw 1 counterclockwise (CCW).
   When back tension is too low, turn the screw 1 clockwise (CW).
3. After adjustment fix the angle with the screw 2. (At this time take care so as to prevent excessive tightening.) Apply Screw Lock to the screw 1.

<Caution>

Screw tightening torque: 0.04N·m

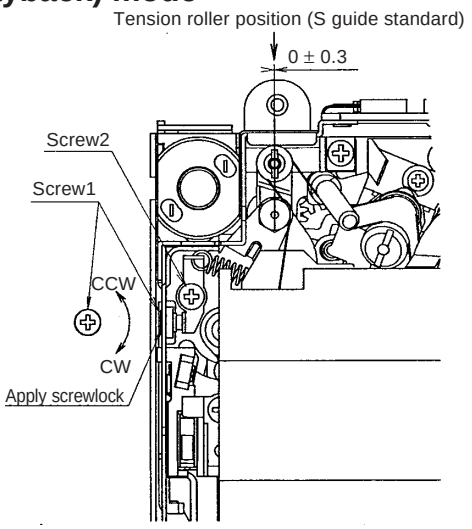


Fig. 4. Check (tape exists)

6-5. Checking and adjustment of tension roller position in record (playback) mode

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Checking

Before winding the 60-min tape make sure that the tension roller is in the same position as S guide as shown in Fig. 4.

If not, take out the tape and adjust in the following procedure.

(2) Adjustment (Fig. 5)

1. Set the playback mode without loading the tape.
2. Loosen the screw 3 slightly (to such an extent that the tension band holder 4 can be moved).
3. If the tension roller is inside from the specified position, shift the tension band holder 4 in the arrow Ⓐ direction. If the tension roller is outside, shift the tension band holder in the arrow Ⓑ direction, and fix with the screw 3. (Proper shift must be 0.2 to 0.6mm outside from the specified position.)
4. Check the position by the procedure described in item (1) Checking above.
5. If the position is not specified position, adjust again.

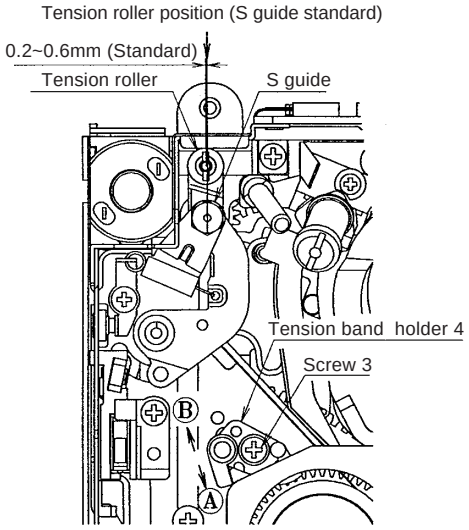


Fig. 5. Position adjustment (tape does not exist)

6-6. Checking of supply S reel base no-load torque

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly, then apply DC3V to the loading motor and put the system into L. start mode (refer to 8-1).

(2) Move the swing arm toward the Tu reel base side.
Be careful not to cause damage to the gears and other parts in the process. (Fig. 6)

(3) Set a back tension measurement reel hub on the S reel base.

(4) Using a dial tension gauge, pull the string in the A direction, then confirm that the tension is within the standard.

<FF back tension standard>

(If the tension fluctuates, read its center value.)

30mN or less

6-7. Checking of loading back tension

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly, then apply DC3V to the loading motor and put the system into L. start mode.
(refer to 8-1)

(2) Move the swing arm toward the S reel base side. Be careful not to cause damage to the gears and other parts in the process. (Fig. 7)

(3) Set a back tension measurement reel hub on the Tu reel base.

(4) Using a dial tension gauge, pull the string in the A direction, then confirm that the tension is within the standard.

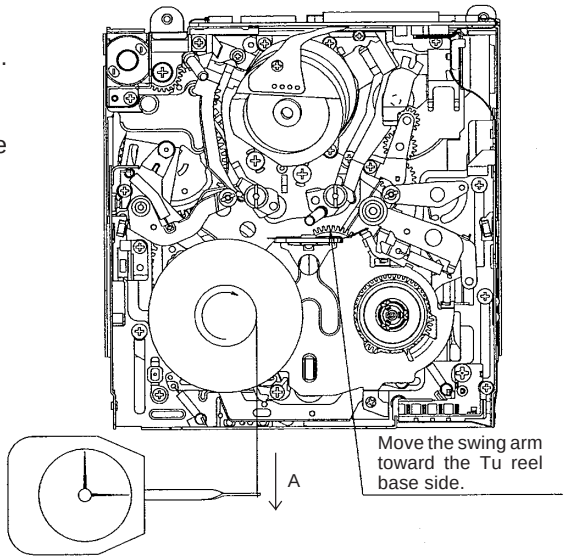


Fig. 6. S reel base no-load torque measurement method

<REW back tension standard>

(If the tension fluctuates, read its center value.)

15 ± 12mN

6-8. Checking of winding Tu reel base ratchet torque

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly, then apply DC3V to the loading motor and put the system into standby mode. (refer to 8-1)

(2) Move the swing arm toward the S reel base side.
Be careful not to cause damage to the gears and other parts in the process. (Fig. 8)

(3) Set a back tension measurement reel hub on the Tu reel base.

(4) Using a dial tension gauge, pull the string in the A direction, then confirm that the tension is within the standard.

<Winding Tu reel base ratchet torque standard >

(If the tension fluctuates, read its center value.)

100mN or less

6-9. Checking of rewinding playback (VS-REW) back tension

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Remove the cassette controller assembly, then apply DC3V to the loading motor and put the system into rewinding playback (VS-REW) mode. (refer to 8-1)

(2) Move the swing arm toward the S reel base side.
Be careful not to cause damage to the gears and other parts in the process.

(3) Set a torque gauge on the Tu reel base.

(4) Turning the torque gauge to counterclockwise (1 turn for 3 seconds), then confirm that the torque is within the standard.

<Rewinding playback (VS-REW) back tension standard value>

(If the tension fluctuates, read its center value.)

0.70 +0.7/-0.3mN·m

6-10. Checking of pinch pressing force

DC3V, without cassette controller assembly (Independent Mechanism)

(1) Set the pinch roller pressing force measuring thread on the pinch lever (position A , Fig. 9).

(2) Set the mechanism to the playback mode, press the pinch roller against the capstan axis.

(3) Fit the tension gauge to the pinch roller pressing force measuring thread, pull in the arrow B direction shown in Fig. 11 to separate a little the pinch roller from the capstan axis.

(4) Gradually return the pinch roller, and when the pinch roller contacts parallel the capstan axis, read the value (see Fig. 10) to make sure that the value conforms to the standard shown below.

<Standard>

1.8 +0.3/-0.5N

<Caution>

After making this measurement, quickly release the system from playback mode and remove the pinch roller from the capstan shaft. (If the pinch roller is left fitted onto the capstan shaft for a long time, the pinch roller will be deformed.)

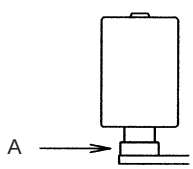


Fig. 9

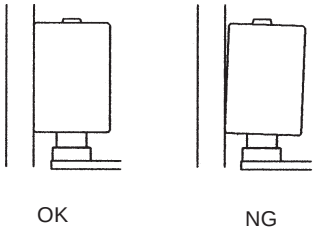


Fig. 10

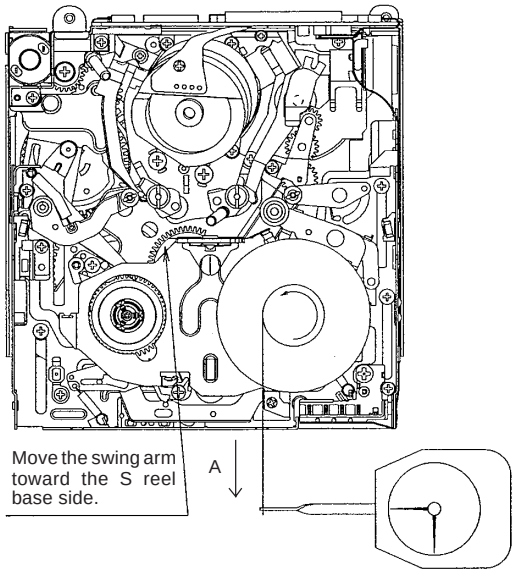


Fig. 7. Loading back tension measurement method

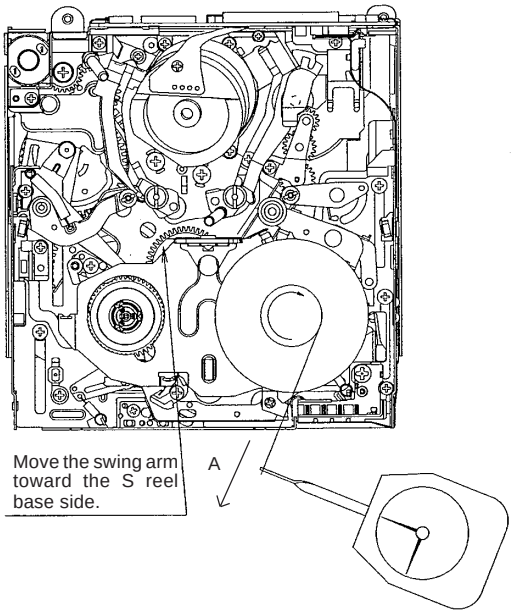


Fig. 8. Winding Tu reel base ratchet torque measurement method

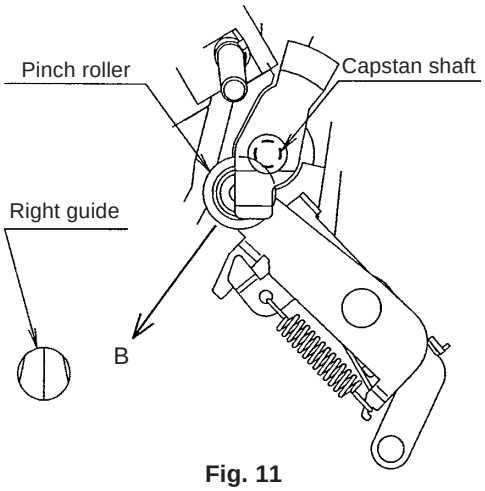


Fig. 11

7. TAPE RUNNING ADJUSTMENT

7-1. Adjustment locations

<Replacement parts>
· T roller, arm
· Tu guide, arm
· Slide chassis

→ Adjust the height of only replaced parts with the adjusting jig. Adjustment procedure 7-2

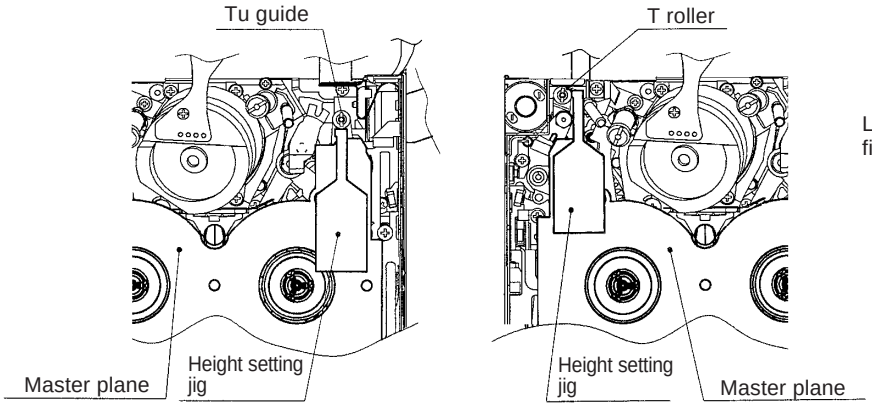
<Replacement parts other than those shown above>
· S guide
· Pole base
· Guide roller
· Drum assembly
· Capstan motor, etc.

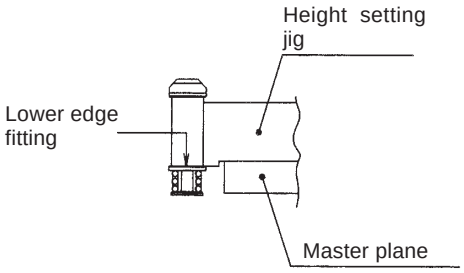
→ Height presetting is not necessary.

→ Cassette controller installation → Running adjustment preparation Adjustment procedure 7-3 → Running rough adjustment Adjustment procedure 7-4 → Running final adjustment Adjustment procedure 7-5

7-2. Running height adjustment

· After replacement of T roller or Tu guide adjust the height . (Adjust only the replaced parts.)
· After height adjustment do not turn the T roller. If crease is found on the tape of Tu guide, remove the crease by rotating. (As for details refer to the “Running rough adjustment”.)
· After height adjustment of T roller or Tu guide, apply Screw lock to an end of shaft. (After replacement of S guide apply Screw lock to same point, too.)





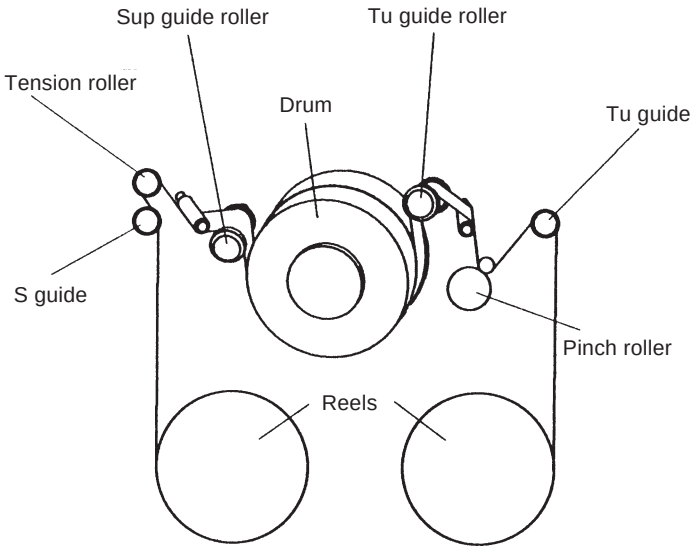
Fit height the par on low edge fitting.
After setting adjustment jigs, turn T roller and S guide counterclockwise to 225°.

7-3. Preparation for tape running adjustment

Meters, jig… Oscilloscope, Adjustment remote control, Height adjustment screw driver, Alignment tape (for tape running adjustment, for switch point adjustment), Master plane, Height adjustment jig.

<Method and description>

(1) Clean the tape running surface (especially, adequately clean the drum surface and the lower drum helicam surface).
(2) Attach the cassette controller.
(3) Connect an oscilloscope to each TP on the relay circuit board.
(4) Turn the AC adapter power ON.
(5) Using the adjustment remote control unit, put the system TEST mode T-05.
(6) Replay the alignment tape for running adjustment, and make sure that the tape is running in the SP mode.
(7) Check the oscilloscope playback envelope, then, at +1/4 shift and -1/4 shift, check whether all of it is flat. If it is not, perform the following adjustment so that it becomes flat.
(Each time you push the PLAY key, the shift will change;
+1/4 shift → Normal → -1/4 shift → Normal, in order.)



7-4. Running rough adjustment

(With cassette controller)

1) Su, Tu guide roller height adjustment

<Method and description>

(1) Loosen the guide roller lock screw, then tighten loosely so that the roller turns easily.
(2) Replay an alignment tape, and adjust the Sup, Tu guide roller so that the envelope sides of entrance and exit are flat.
(3) Perform ± 1/4 shift, then, as in the above case, adjust until the envelope becomes flat.
* If running is difficult for the entrance changed, turn the T roller to counter clockwise 180°. (refer to Fig. 1)

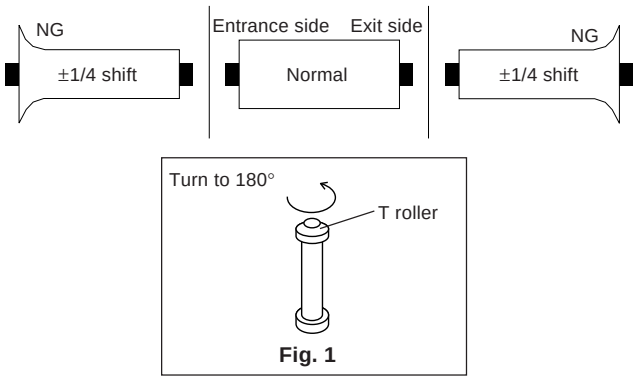
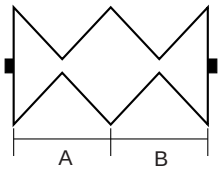


Fig. 1

2) Check of V/SR envelope wave form

<Method and description>

(1) Confirm that the envelope waveform peaks in V/SR mode are uniform.
(2) If they are not uniform, fine-adjust the guide roller and the Tu guide.

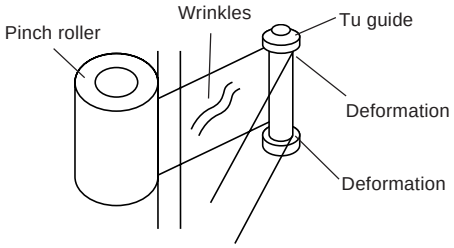


Adjust so that A ≒ B.

3) Check of tape wrinkles

<Method and description>

(1) Check that the tape is not distorted between the Tu guide and pinch in the PB mode and the V/SR mode.
⇨If crease is found, make an adjustment in the range of ±180°.
⇨After adjustment apply Screw Lock.



4) Check the rising time of the envelope wave form

<Method and description>

(1) Check the rising time of the envelope when switching from V/SR mode to PB mode. (Within 5 sec)
(2) Check the rising time of the envelope when switching from STOP mode to PB mode. (Within 5 sec)

7-5. Final running adjustment

(With cassette controller)

1) Adjustment of Sup and Tu guide roller height

<Method and description>

(1) Perform ± 1/4 shift, then if the envelope wave's ratio of MAX. to MIN. are 60% or less, adjust again the height of guide roller. (Refer to Fig. 2)
(2) Finally adjust the lock screw of Sup and Tu guide roller.
(3) Once perform unloading and then loading to set the PB mode, and make sure that the envelope waveform does not change.

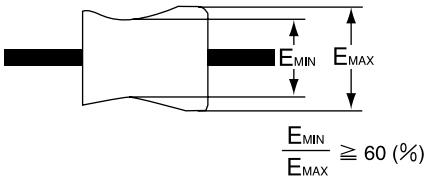


Fig. 2

2) Adjustment of playback SWP

<Method and description>

(1) Playback the alignment tape for switch point adjustment.
(2) Perform SWP automatic adjustment with adjustment remote control.

* When replacing the mechanism and drum, adjust the phase and equalizer using the adjustment remote control. (Refer to "9. ADJUSTMENT THE ELECTRICAL CIRCUIT".)

8. MECHANICAL SECTION ASSEMBLY AND PARTS REPLACEMENT (DISASSEMBLY AND REASSEMBLY)

Mechanical section disassembly and reassembly are explained in this section.
For removal of the cabinet, etc., refer to **3. DISASSEMBLY OF THE SET.**

<Precautions>

1. Always replace cut washers that have been removed, for example in parts replacement, with new ones.
2. When reassembling, be careful not to allow screws, washers or foreign matter to enter. They can cause mechanical misoperation.
3. Use the cleaning liquid, oil, grease and screw lock that are specified below. Use of any other kind can cause mechanical misoperation.

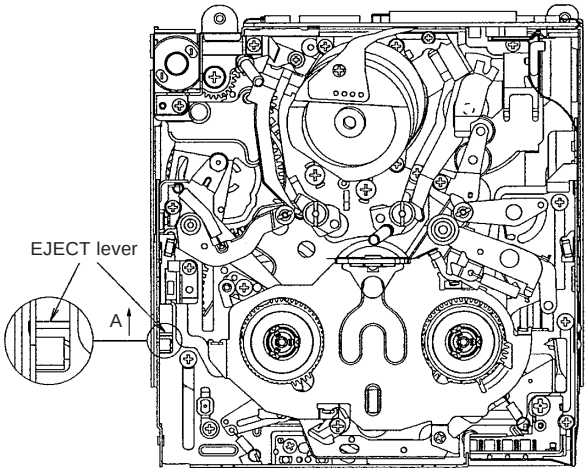
Oil: Cosmo Petroleum : Cosmo Hydro HV22	Screw lock: Three Bond :1401B
Grease: Dow Corning : Moly Coat YM-103	Cleaning liquid: Industrial-use ethyl alcohol

8-1. On the mechanical modes

When operating the mechanism separately, apply DC3~4V to the loading motor.
(When the mechanism is connected to the main PWB, do not apply external voltage to the loading motor. It may cause operational problems.)

(1) EJECT mode

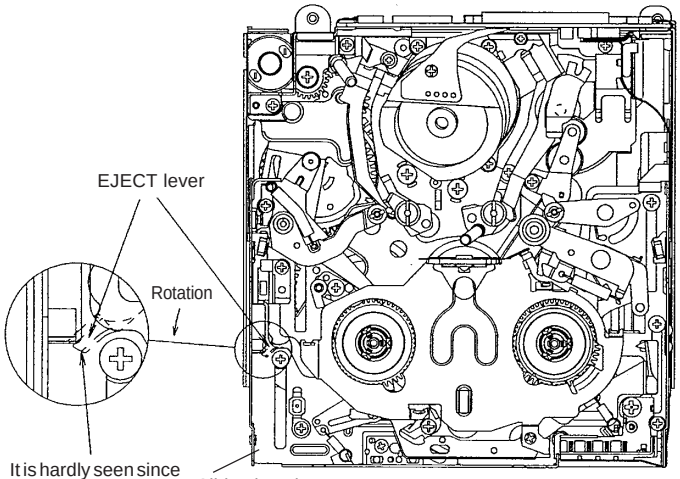
The mechanism position to take out the cassette where the EJECT lever is extremely shifted in the A direction. (It is impossible to lock the cassette controller assembly in this mode.)



EJECT mode diagram

(2) STANDBY mode

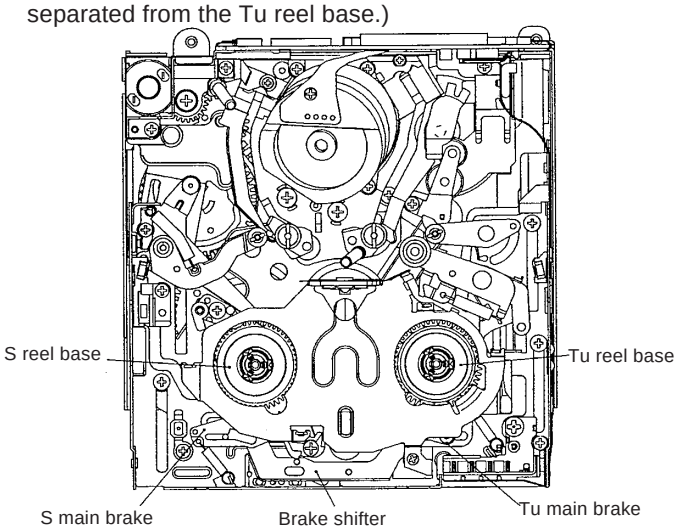
The mechanism position to set the cassette where the slide chassis is at the farthest position from the drum and the EJECT lever is in clockwise rotated position (position where the cassette controller assembly can be locked).



STANDBY mode diagram

(3) LOADING START mode

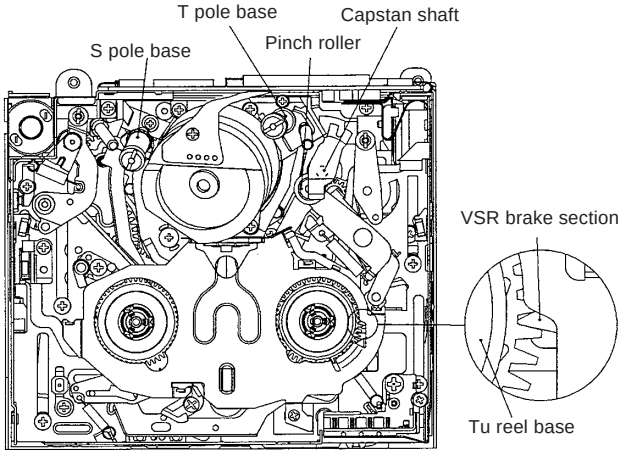
This is the mode where the tape is wound around the winding reel when a cassette with visible wind start leader tape is loaded. (The brake shifter moves to the left, the S main brake is separated from the S reel base and the Tu main brake is separated from the Tu reel base.)



LOADING START mode diagram

(4) REWINDING (VSR) mode

The mechanism position to rewind the tape (fast rewinding playback). The S and T pole base is pressed, the pinch roller is pressed to the capstan axis, the brake shifter VSR brake section engages with the Tu reel base gear.

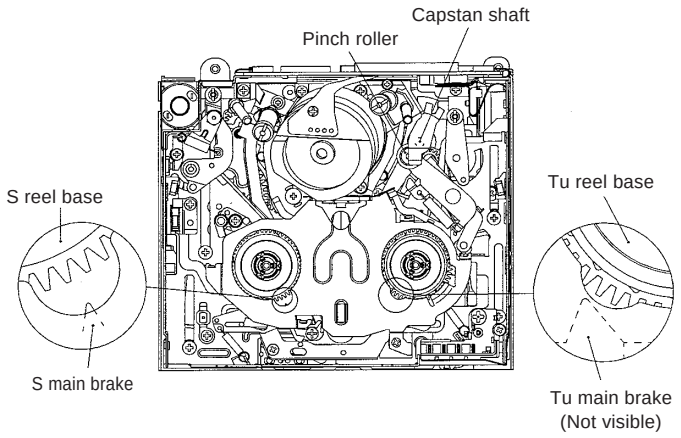


REWINDING (VSR) mode diagram

(5) PLAYBACK (RECORD, FF, VSF) mode

The mechanism position for playback, record, FF and fast feed playback.

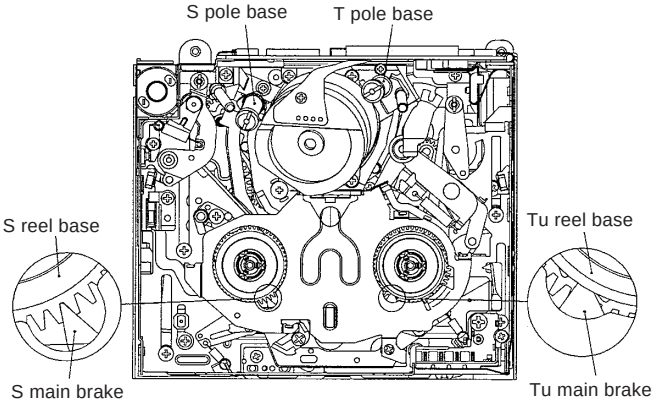
The pinch roller is pressed to the capstan axis, and the S/Tu main brake is separated from the S/Tu reel base.



PLAYBACK mode diagram (RECORD, FF, VSF)

(6) STOP mode

The system is in the STOP (Rec Lock in CAMERA mode) position; the S and the T pole bases are snap-fitted to the drum base, the S brake is in contact with the S reel base, and the Tu brake is in contact with the Tu reel base.



STOP mode diagram

8-2. Cassette controller assembly

<Removing>

(1) Apply DC3V to the loading motor to enter the standby mode.
Press the lock lever in the arrow direction to raise the cassette controller. (See Fig. 1; Ⓐ or Ⓑ direction.)

(2) Turn the damper lever in the arrow Ⓒ direction to release the engagement of the damper bar. (See Fig. 2.)

(3) Remove two screws Ⓔ, and remove the down guide Ⓓ in the arrow Ⓕ direction. (See Figs. 3 and 4.)
Take care that the slide chassis is provided with the down guide positioning Ⓖ or Ⓗ.

(4) Slide the cassette controller in the arrow Ⓘ direction, remove the outer link shaft (both sides) toward the inside of the mechanism, and turn the cassette controller in the arrow Ⓙ direction. (See Fig. 5.)

(5) Slide the cassette controller in the arrow Ⓚ direction. (See Fig. 6.)

<Installing>

(1) Apply DC3V to the loading motor to enter the standby mode.

(2) For assembly, reverse the removing procedure (5) thru (2).
Tightening torque of two screws Ⓔ: 40±4mN.m

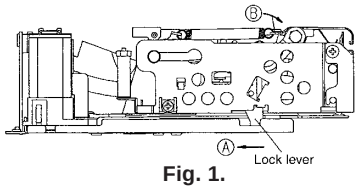


Fig. 1.

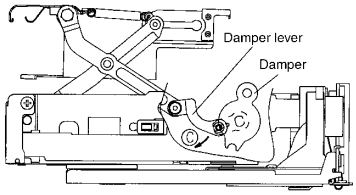


Fig. 2.

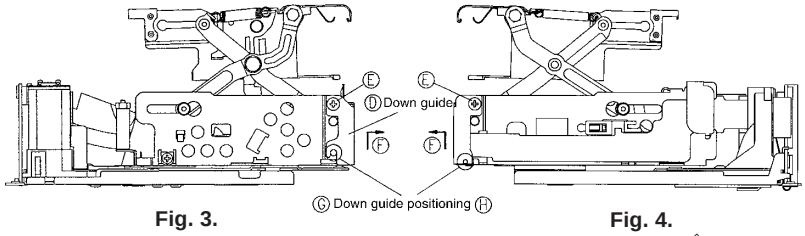


Fig. 3.

Fig. 4.

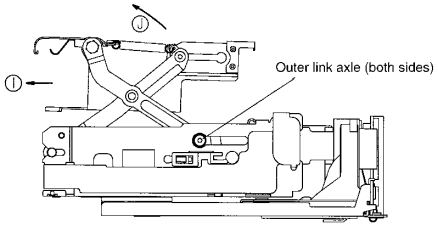


Fig. 5.

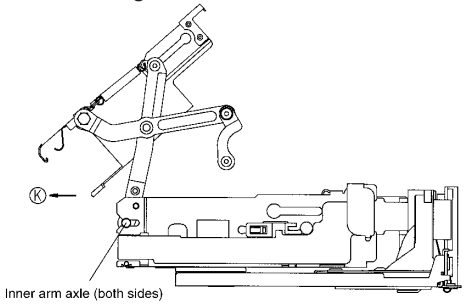


Fig. 6.

8-3. How to operate with the circuit board without the cassette controller assembly.

In this method, if the procedure is followed incorrectly there is danger of damaging the mechanism and the tape, so except in special cases, such as when measuring the VSR torque, do not perform this procedure. Normally operate this unit with the cassette controller assembly attached.
Be sure to follow each caution mentioned.

(1) Apply DC3 ~ 4V to the loading motor to enter the standby mode.
(2) Securely press the movable piece Ⓛ of the down SW with cellophane tape or similar to turn on SW. (Take care that the movable piece turns only in the shown arrow direction.)

Note: To enter REC mode, press the pin of the recognition switch Ⓜ.
(Unnecessary in other modes.)

(3) Set the test mode (T-01) with the adjustment remote controller without putting the tape, and the mechanical operation will become possible with the mode key.
(4) For ejection, remove the tape of (2).

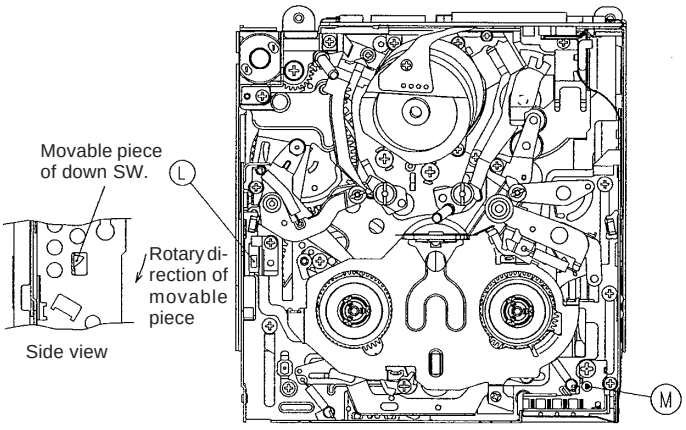


Fig. 7. LOADING START mode

8-4. Phase matching

Referring to Figs. 8 and 9, align the phase for the following parts.
(1) Ejection lever (2) Election operation lever (3) Mode SW (4) Main cam (5) Subcam
Note: Before disassembly, sufficiently check the marker position.
Note: When installing the joining gears, verify that the phase aligning holes of the main cam and subcam are aligned to the hole of the chassis.
Note: After the phase is aligned, turn the mode SW with hand, and verify that it turns nearly one turn.
(After verification, return it to the original position.)

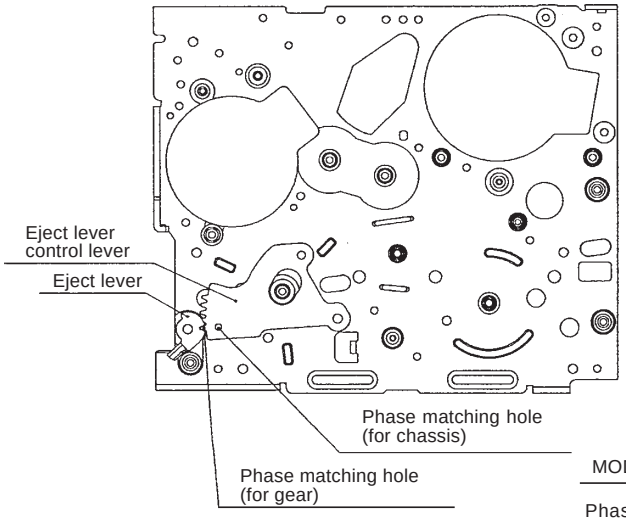


Fig. 8

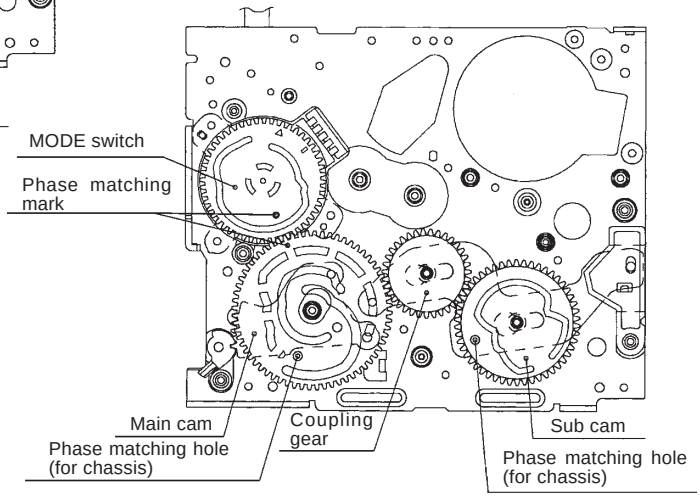


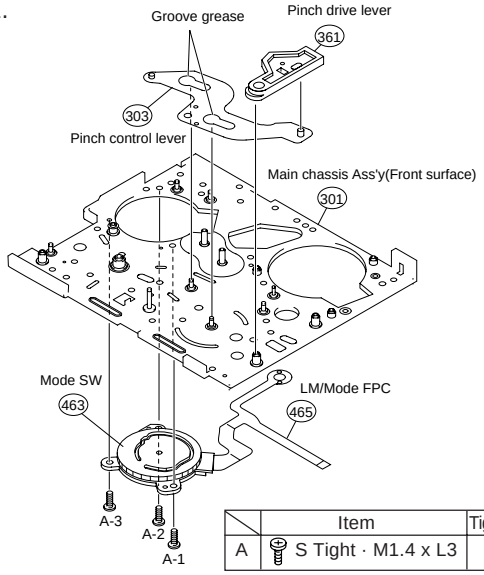
Fig. 9

8-5. Reassembly

8-5-1. Reassembly in side of the main chassis.

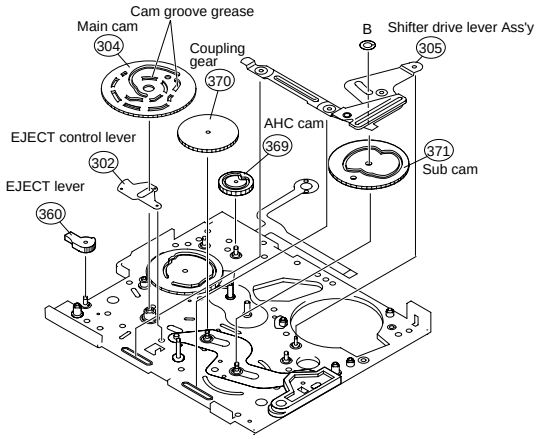
Note) Numbers before part names are given as a guide to the order of assembly.
As for greasing/oiling/cleaning places refer to the attached drawings (Grease/Oil application side of the main chassis).

1.



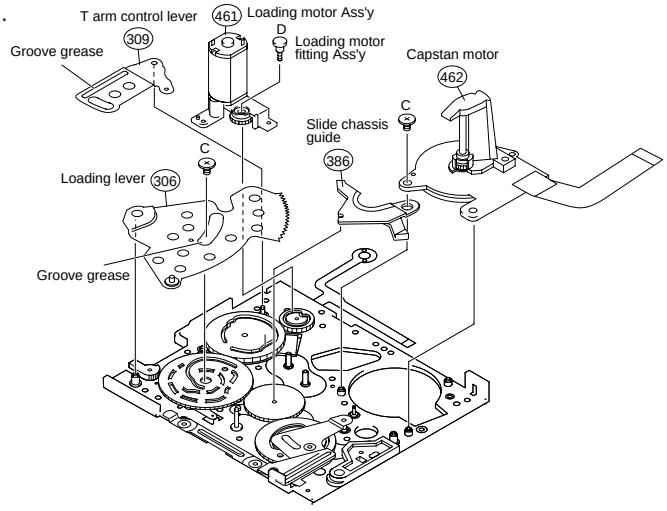
	Item	Tightening torque	Quantity
A	S Tight · M1.4 x L3	70mN·m	3

2.



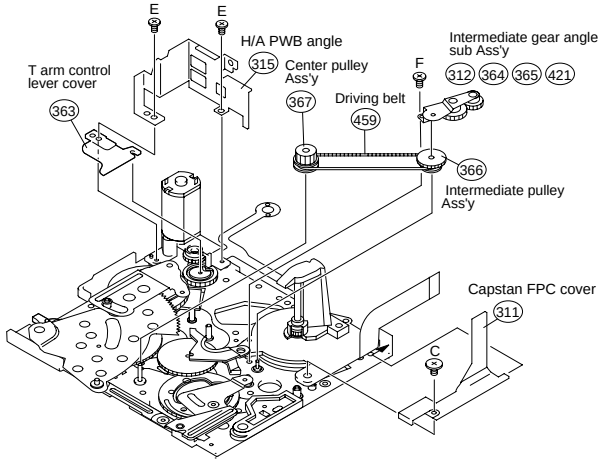
	Item	Tightening torque	Quantity
B	CWø1.2-ø3.0-t0.25	————	1

3.



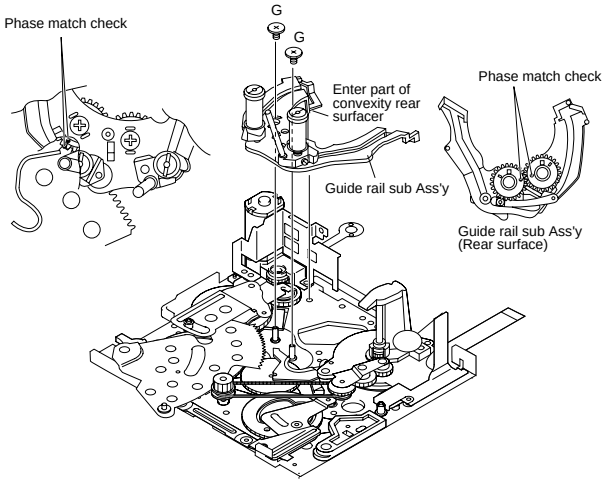
	Item	Tightening torque	Quantity
C	Special screw · M1.4 x L1.6	40mN·m	2
D	Special screw with step· M1.4 x L6.25	70mN·m	1

4.



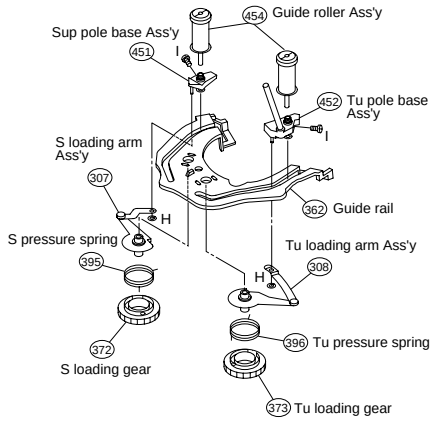
	Item	Tightening torque	Quantity
C	Special screw · M1.4 x L1.6	40mN·m	1
E	S Tight · M1.4 x L4	70mN·m	2
F	S Tight · M1.4 x L2	70mN·m	1

5.



	Item	Tightening torque	Quantity
G	Special head screw · M1.4 x L1.5	40mN·m	2

6.

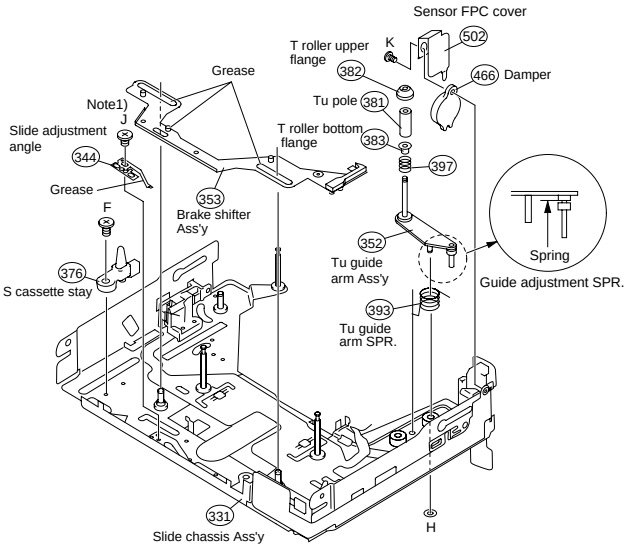


	Item	Tightening torque	Quantity
H	CWø0.7-ø2.2-t0.25	————	2
I	Special screw · M1.2 x L1.8	5mN·m (Tentative tightening)	2

8-5-2. Reassembly in side of the Slide chassis.

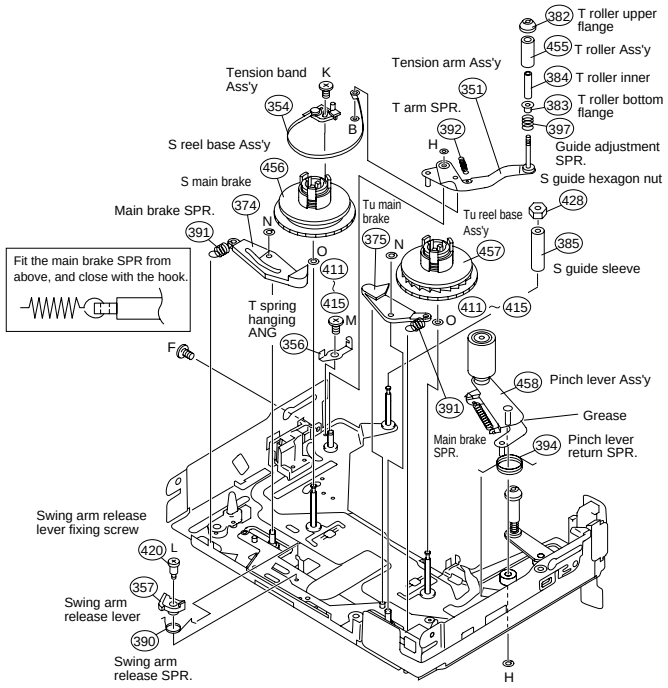
Note) Numbers before part names are given as a guide to the order of assembly.
As for greasing/oiling/cleaning places refer to the attached drawings (Grease/Oil application side of the slide chassis)

1.



	Item	Tightening torque	Quantity
F	S Tight · M1.4 x L2	40mN·m	1
H	CWø0.7-ø2.2-t0.25	————	1
J	Special screw · M1.2 x L1 Note 1: Use the No. 00 bit.	40mN·m	1
K	Special head screw · M1.4 x L2	40mN·m	1

2.



Note 1: Take care for scratch and hit mark on (381), (382), (383), (384) and (455). Handle the tension band with care against deformation.
Note 2: After lightly tightening (428) arm area against deformation, apply screw-lock on the tip of the shaft.

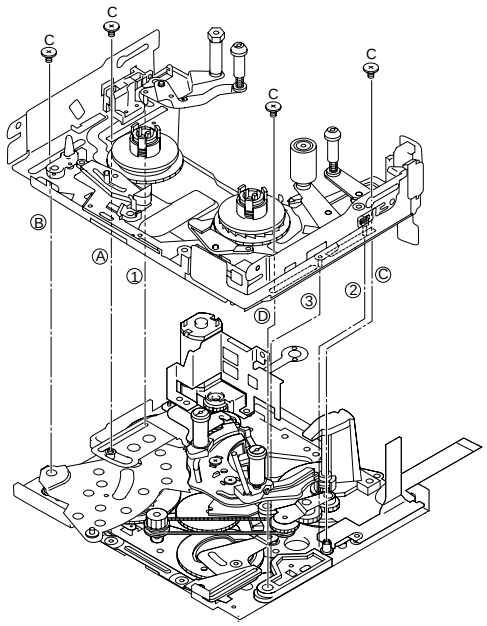
	Item	Tightening torque	Quantity
B	CWø1.2-ø3.0-t0.25	————	1
F	S Tight · M1.4 x L2	40mN·m	1
H	CWø0.7-ø2.2-t0.25	————	2
K	Special head screw · M1.4 x L2	40mN·m	1
L	Special screw with step· M1.4 x L1	40mN·m	1
M	Type 2 minuteness M1.4 x L1	40mN·m	1
N	CWø0.7-ø1.8-t0.1	————	2
O	Wø1.2-ø2.5-t0.3	————	2

8-5-3. Main chassis assembly and slide chassis assembly assembling method

(1) Enter the coupling mode. (In this position, the cam groove of the T arm operation lever in the figure is parallel to the side of the main chassis, and the ball base is slightly moved.)

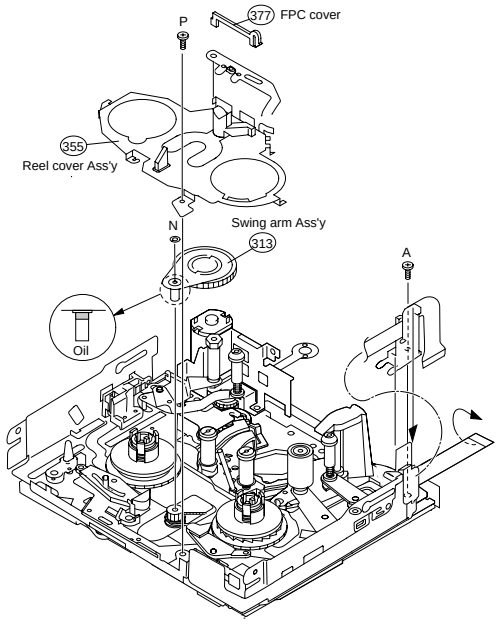
(2) Insert the slide chassis side operation pins (① tension arm, ② Tu guide arm, ③ pinch lever) in the position shown below at the main chassis side, move the slide chassis in the arrow direction, using Ⓐ to Ⓓ as guides, insert the loading lever operation pin into the groove of slide chassis, and install with the 4 screws.

1.



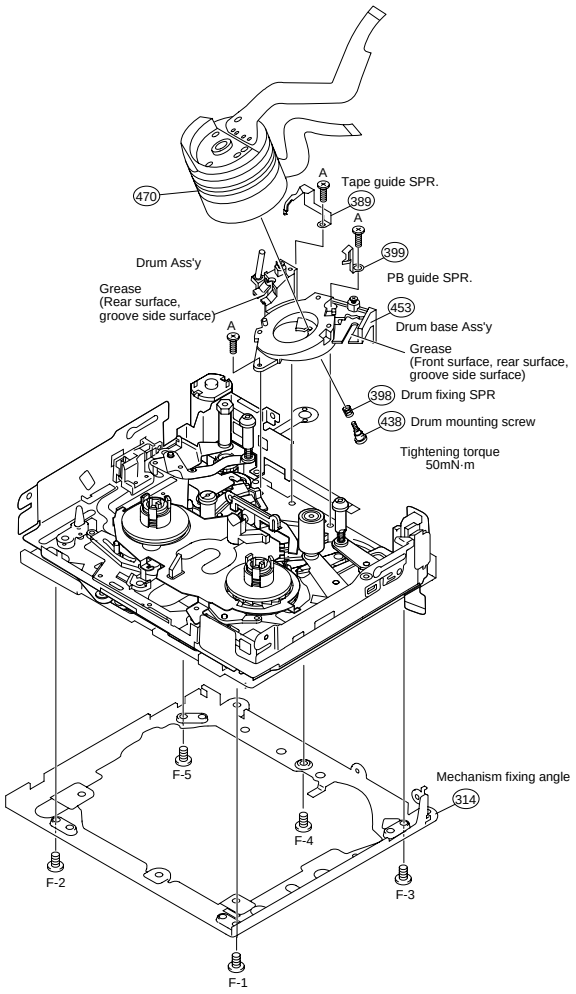
	Item	Tightening torque	Quantity
C	Special screw · M1.4 x L1.6	40mN·m	4

2.



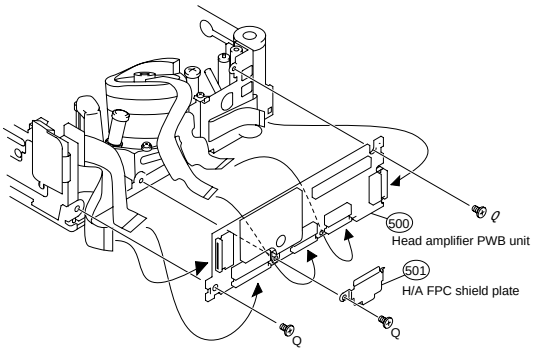
	Item	Tightening torque	Quantity
A	S Tight · M1.4 x L3	40mN·m	1
N	CWø0.7-ø1.8-t0.1	———	1
P	Type 1 minuteness M1.4 x L1	40mN·m	1

3.



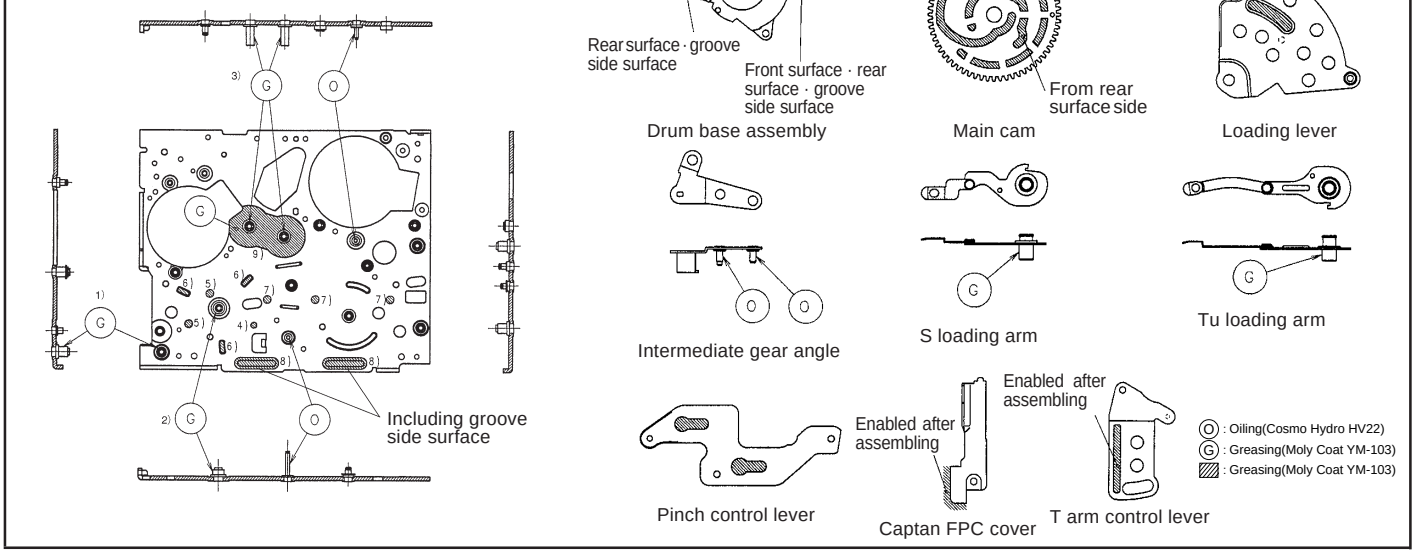
	Item	Tightening torque	Quantity
A	S Tight · M1.4 x L3	70mN·m	3
F	S Tight · M1.4 x L2	70mN·m	5

4.

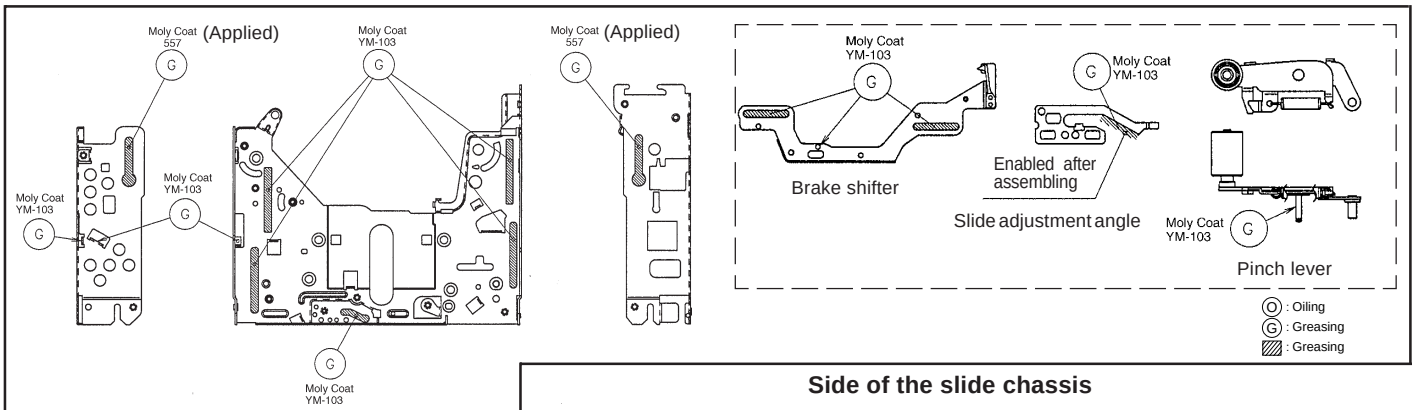


	Item	Tightening torque	Quantity
Q	Type 2 minuteness M1.4 x L2	40mN·m	3

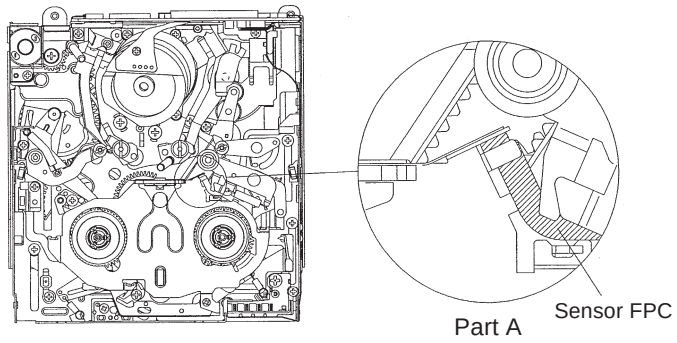
GREASE/OIL APPLICATION



Side of the main chassis



Side of the slide chassis



Sensor FPC wiring

8-6. Removing the cassette

(1) Apply DC3V to the loading motor unload slightly.
(2) After the tape is slackened, turn the rotor (lower side of mechanism) of capstan motor to tighten the tape. (Arrow direction, Fig. 1)
(3) Repeat the operations (1) and (2). After the pole base has been completely unloaded, ascertain that the tape is not loose.
(4) Finally apply again DC3V to the loading motor, so that the cassette controller ejects.
(5) Take out the cassette.

Note) DC3V is applied to the loading motor as shown Fig 1. Then, the mechanism moves in the unloading direction.

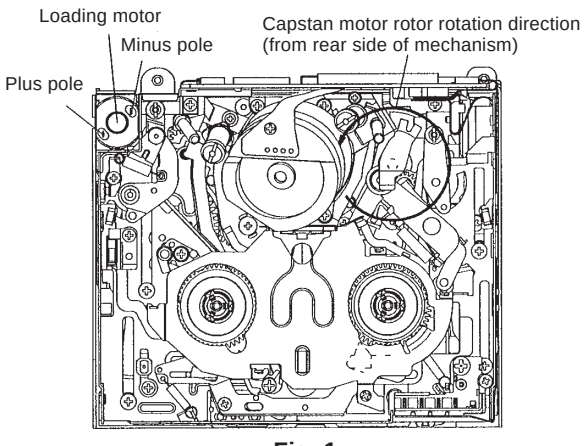


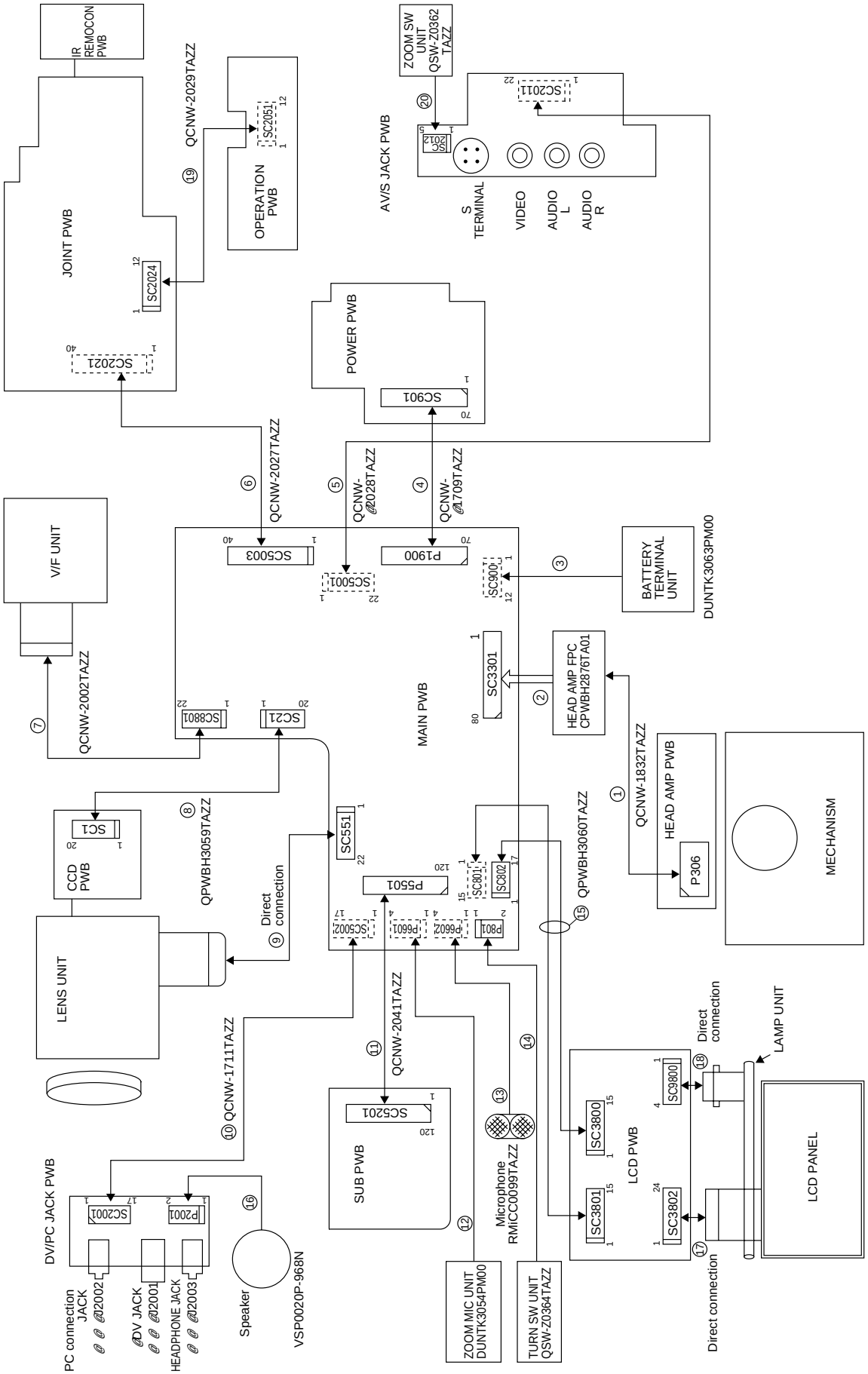
Fig. 1

9. ADJUSTING THE ELECTRICAL CIRCUITS

Before starting the electric circuit adjustment

- The adjustment methods described herein are used, in most cases, when the expendable mechanical parts, including the video head, have been replaced, at which time the electrical circuits need to be readjusted. Before adjusting the electrical circuits, make sure that the mechanism works properly (i.e., the mechanism is properly adjusted). Incase of the occurrence of any problem to the electrical circuits, be sure to use the specified measuring instruments to locate the area to which the problem is occurring, and then take the necessary action, including repair, replacement or adjustment, exactly as instructed in the electrical adjustment methods that will follow.
  Do not attempt to make adjustments without using the proper measuring instruments.
- This machine is configured so that the electrical circuits inside its PWB unit are composed, for the most part, of high-density, small surface-mounted component parts for downsized machine body.
  To perform repair service or parts replacement, do so using a soldering iron, but in as short a time as possible; this is because surface-mounted component parts are generally so small in size and susceptible to heat, as compared with the large discrete parts used in TV sets, desk-top video decks, etc., that attempting to heat their electrodes for a longer time than is necessary with a soldering iron may result in their becoming defective.
  This applies particularly when replacing the laminated chip capacitors.
  For this purpose, ceramic soldering irons with a temperature regulator are recommended (iron tip temperature 250°C and soldering time 5 seconds or shorter).

VL-WD250S/H/E/WD450S/H/E Service jig configuration

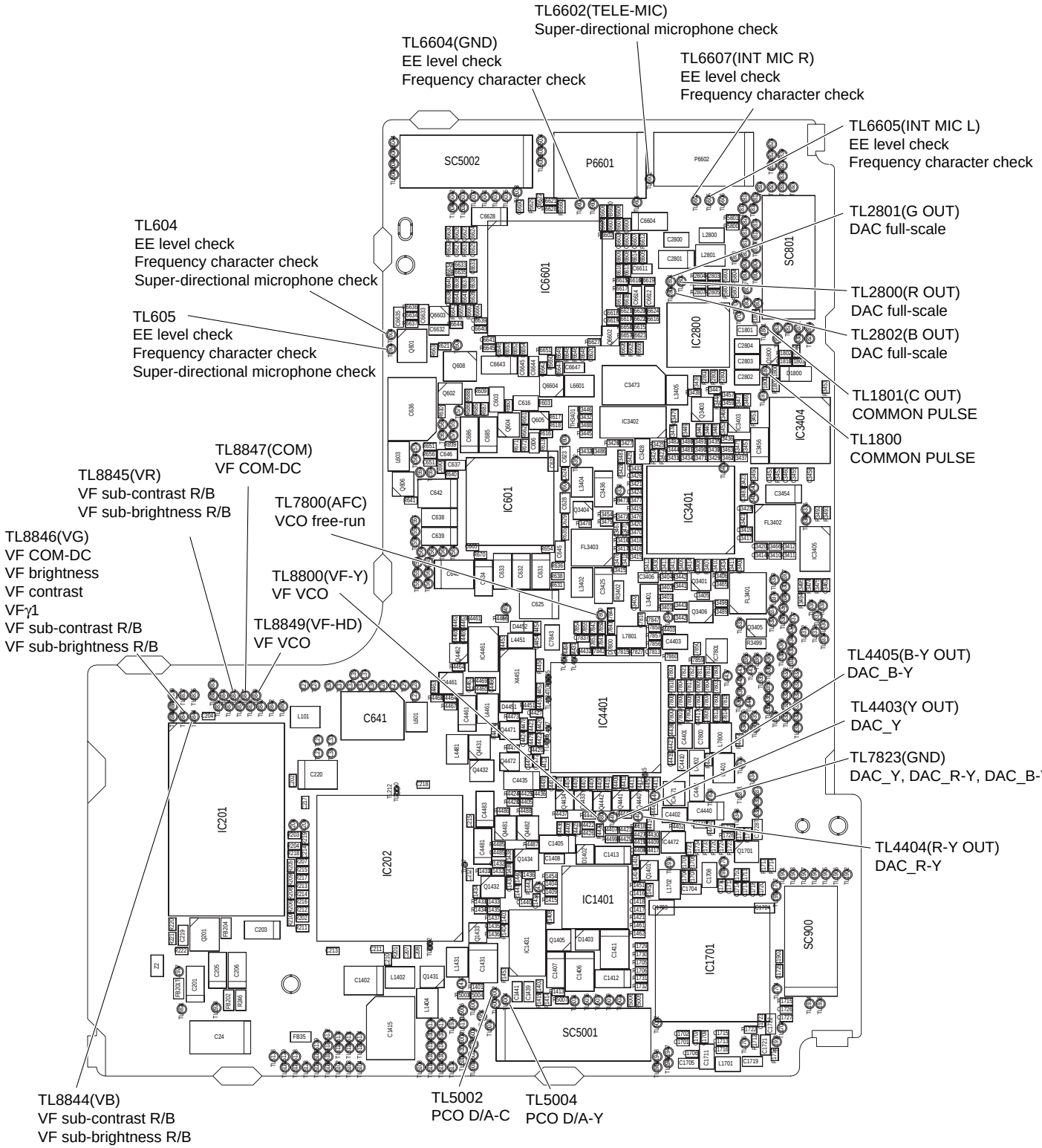


VL-WD250S/H/E/WD450S/H/E Specifications of service jigs

No.	Connection section	Connector REF. No.	No. of pins	New or Continuation	Part cord	Price code
1	H/A_PWB–H/A_FPC	P306–	80B-B	C	QCNW-1832TAZZ	BV
2	H/A_FPC–MAIN	–SC3301	80B-B		CPWBH2876TA01 Product unit use	AS
3	MAIN–Battery Terminal	SC900←	12		DUNTK3063PM00 Product unit use	—
4	MAIN–POWER	P1900–SC901	70B-B	C	QCNW-1709TAZZ	BU
5	MAIN–AV/S Jack PWB	SC5001–SC2011	22	N	QCNW-2028TAZZ	AN
6	MAIN–JOINT PWB	SC5003–SC2021	40	N	QCNW-2027TAZZ	AM
7	MAIN–V/F Unit	SC8801–	22	C	QCNW-2002TAZZ	BL
8	MAIN–CCD PWB	SC21–SC1	20		QPWBH3059TAZZ Product unit use	AF
9	MAIN–Lens Unit	SC551–	22		Direct connection	—
10	MAIN–DV/PC Jack PWB	SC5002–SC2001	17	C	QCNW-1711TAZZ	AL
11	MAIN–SUB PWB	P5501–SC5201	120B-B	N	QCNW-2041TAZZ	BT
12	MAIN–Zoom Mic Unit	P6601–	4		DUNTK3054PM00 Product unit use	—
13	MAIN–Microphone	P6602–	4		RMiCC0099TAZZ Product unit use	AT
14	MAIN–TURN SW Unit	P801	2		QSW-Z0364TAZZ Product unit use	AA
15	MAIN–LCD PWB	SC801–SC3801 SC802–SC3800	15-15 17-15		QPWBH3060TAZZ Product unit use	AR
16	DV/PC Jack PWB–Speaker	P2001–	2		VSP0020P-968N Product unit use	AL
17	LCD PWB–LCD Panel	SC3802–	24		Direct connection	—
18	LCD PWB–LAMP Unit	SC9800–	4		Direct connection	—
19	JOINT PWB– Operation PWB	SC2024–SC2051	12	N	QCNW-2029TAZZ Product unit use	AN
20	AV/S Jack PWB–Zoom SW	SC2012–	5		QSW-Z0362TAZZ Product unit use	AR

[TEST POINT]

(Wiring board diagram: Main Side B)



[Making adjustments]

Adjusting the servo system controller and related parts

1. Setting the system codes

Replacement of IC703 E²PROM requires the following data to be set in this order.

[Procedure]

Set the unit to the VCR mode and set the data for each address.

Code	1. Model code			2. Destination code			3. Specification code			4. Menu selection code		5. Software switching code		6. Calender switching	
Address		01	09		02	0A		03	0B	04	0C	05	0D	07	0F
Data	WD450	01	FE	S	0A	F5	S	96	69	00	FF	00	FF	01	FE
	WD250	02	FD	H	0D	F2	H	9E	61						
				E	0B	F4	E	1E	E1						

When replacing the IC703 E²PROM, first make the following settings and then start the adjustments.

(1) Electromagnetic conversion

Address	27	28	2B	*105	25	26
Data	40	90	90	80	40	90

* The address uses only when replacing the IC302.

• Adjustment with automatic machine

Mode	VCR ADJ mode
Procedure	1) Using the 12 command, set the VCR adjustment mode. 2) Using the 20 command, give the E²PROM Write permission. 3) Set the system code with the 22 command for each type. 4) Using the command, set write inhibition. 5) Using the command, cancel the adjustment mode.
Examples	• During E²PROM (IC703) replacement.

• Manual adjustment

Mode	VCR ADJ mode
Procedure	1) Set the CAM/OFF/VCR selection switch to VCR. 2) Press “CONTINUE” → ”VCR adjustment” on the remote controller to set the VCR adjustment mode. (At this time an indication “VCR ADJ” appears at the left lower side.) Enter a setting corresponding to the address. <Setting method> 3) Adjust the address by moving up and down the blinking numeral with the FF and REW key, and fix the address by pressing the PB key. 4) Adjust to the setting by moving up and down the blinking numeral with the FF or REW key, and set data by pressing the PB key. 5) Press the STOP key to set the address set state. 6) Repeat the operations 3), 4) and 5) as much as input addresses. After completion of input of all items hold down the “CONTINUE” key to cancel the VCR adjustment mode. 7) Set the CAM/OFF/VCR selection switch to OFF.
Examples	• During E²PROM (IC703) replacement.

2. HSWP adjustment

Mode	VCR ADJ mode
Procedure	1) Play back the alignment tape in the video mode. 2) Press the "CONTINUE" and "HSWP ADJ" keys on the adjustment remote control in this order. → This executes the HSWP adjustment. When the adjustment is successful, the LCD lights up [OK] and the cassette is automatically ejected. If not properly adjusted, the LCD lights up [NG].
Examples	• During mechanism replacement. • During E²PROM replacement (IC302 inside the head amplifier circuit board).

3. SHUT OFF adjustment

Mode	VCR ADJ mode
Procedure	1) Load a recordable tape, and set the camera mode. 2) Press the "CONTINUE" and then the "TEST SEL" on the remote control for adjustment to enter the TEST mode (T-01 blinks). 3) Select T-03 with the FF or REW key and then press the PB key. 4) Observing the power voltage from TL1901(-), set it so that TL1902(+) obtains 6.00V ± 50mV. 5) Press the PB key on the main unit. Turn off the power and the adjustment is completed.
Examples	• During microcomputer (IC701) or E²PROM (IC703) replacement.

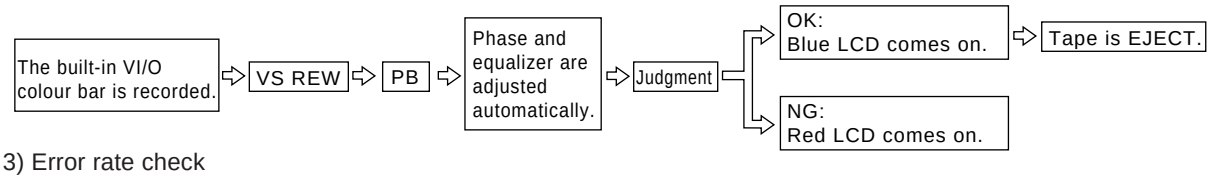
ADJUSTING THE ELECTROMAGNETIC CONVERSION CIRCUIT SYSTEM

1. PLL VCO adjustment

Mode	VCR ADJ mode
Procedure	1) Playback the alignment tape (or a self-recorded tape). 2) Call the adjustment mode (V-ADJ). 3) Set the address "2A" and call the data. 4) Set the called data with the FF/REW key to the point where the playback screen appears. (At this time, the screen full of block noise is OK.)
Examples	• During E^2PROM replacement. • During circuit board (Main) replacement.

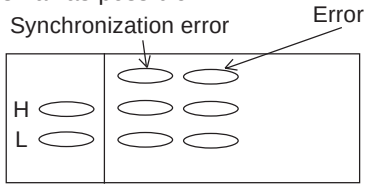
2. Phase and equalizer adjustment → (Performed in the VCR mode)

Mode	VCR ADJ mode
Procedure	1) Load a self-recorded tape into the deck. 2) After playback for 3 minutes, select the test mode 0F using the remote control for adjustment to start the automatic adjustment. (The following sequence is automatically performed.)



3) Error rate check
Select and fix the TEST MODE 0B on the adjustment remote control.
4) Manual adjustment method (video adjustment mode)
* Perform this adjustment with the self-recording/playback in the LP mode.
For phase, vary the data for the address 26 and 2B, and for equalizer, vary the data for the address 25 and 27, to set the error rate is made as small as possible.

	Phase	Equalizer
H ch side	2B	27
L ch side	26	25

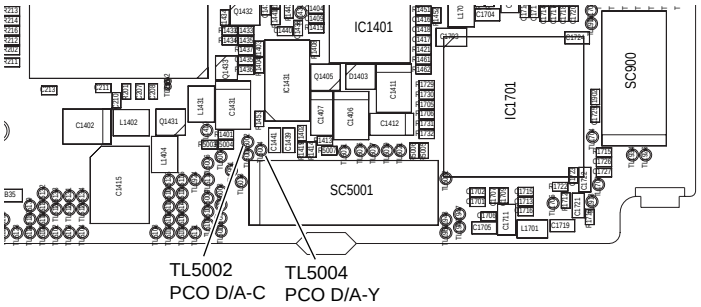


Synchronization error 20 or less
Error rate 200 or less (SP Mode)
330 or less (LP Mode)

Examples	• During mechanism replacement. • During circuit board (Main) replacement. • During E^2PROM replacement.

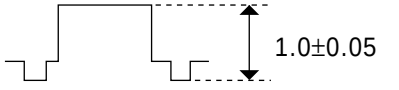
ADJUSTING THE VIDEO I/O CIRCUIT SYSTEM

(Wiring board diagram: Main Side B)



1. PCO D/A-Y adjustment

Test point	TL5004 (connected to oscilloscope)	Mode	EE mode
Procedure	1) Connect the AVS cable and then connect it to the monitor (TO). 2) Call the adjustment mode (V-ADJ). 3) Set the address to "22", and call the date. (100% white signal is output.) 4) Vary the date with the FF and REW keys to set the signal appearing at TL5004 to 1.0Vp-p ± 0.05Vp-p.		



Examples	• During E^2PROM replacement. • During IC4401 replacement. • During IC1401 replacement.

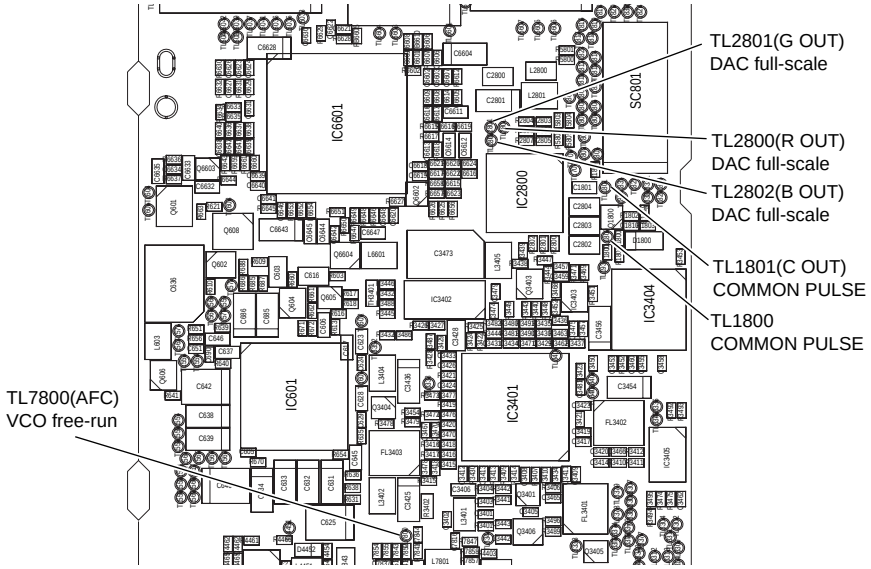
2. PCO D/A-C adjustment

Test point	TL5002	Mode	EE mode
Procedure	1) Connect the AVS cable and then connect it to the monitor (TO). 2) Call the adjustment mode (V-ADJ). 3) Set the address to "23", and call the data. 4) Vary the data with the FF and REW keys to set the signal appearing at TL5002 to 0.64Vp-p ± 0.05Vp-p.		
Examples	• During E²PROM replacement. • During IC4401 replacement. • During IC1401 replacement.		

ADJUSTING THE LCD CIRCUIT

* To make this adjustment, set the backlight switch to the "NORMAL" position.

(Wiring board diagram: Main Side B)



Adjustment procedure and connecting same as the VCR section.

1. VCO free-run adjustment

Test point	TL7800(AFC)	Address	VCR ADJ 32
Mode	VCR AV input		
Procedure	1) Input the white 100% signal to AV input. 2) Connect the digital voltmeter to TL7800, and adjust DC voltage value to the specified adjustment value with VCR ADJ 32.		
Adjustment rating	2.00 ± 0.1V		
Examples	• During E²PROM (IC703) replacement. • During VIO ENG (IC4401) replacement. • During D/A Converter (IC4701) replacement.		

2. DAC full-scale adjustment

Test point	TL2800(R OUT), TL2801(G OUT), TL2802(B OUT)
Address	VCR ADJ 3D(R), VCR ADJ 3E(G), VCR ADJ 3F(B)
Mode	VCR AV input
Procedure	1) Set the VCR ADJ 83/93/C0 to 00/77/00. (At this time, LCD can not be displayed.) 2) With the VCR ADJ 3D, adjust the output voltage of TL2800 and the DC voltage value of the digital voltmeter to the specified adjustment values. 3) Similarly with the VCR ADJ 3E/3F, adjust the output voltage of TL2801/2802 and the DC voltage value of the digital voltmeter to the specified adjustment values. (Same as Item (2)) 4) Return the VCR ADJ 83/93/C0 to the initial value. (Initial value: C5/7F/28)
Adjustment rating	0.78V ± 10mV
Examples	• During E²PROM (IC703) replacement. • During VIO ENG (IC4401) replacement. • During D/A Converter (IC4701) replacement.

3. COMMON PULSE adjustment

Test point	TL1801(C OUT)	Address	VCR ADJ 29(C)
Mode	VCR AV input		
Procedure	1) Connect TL1800 to GND. 2) With VCR ADJ 29, adjust the output voltage of TL1801 and the DC voltage value of the digital voltmeter to the specified adjustment values.		
Adjustment rating	7.05V ± 50mV		
Examples	• During E^2PROM (IC703) replacement. • During D/A Converter (IC4701) replacement.		

4. COM-BIAS adjustment

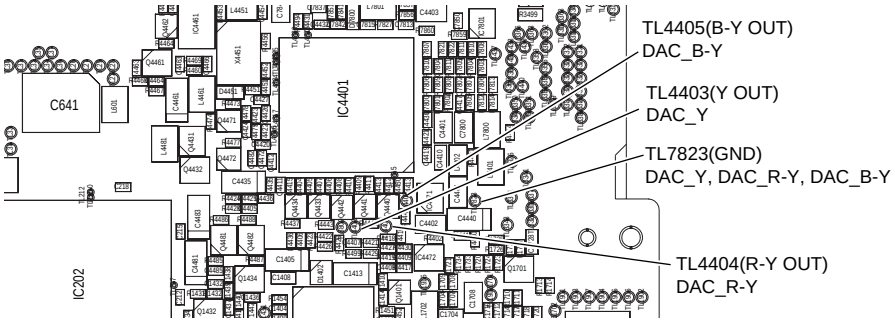
Test point	LCD panel display surface	Address	VCR ADJ 33
Mode	VCR AV input		
Procedure	1) Input the white 100% signal to AV input. 2) Set up the illuminance meter (TOPCON IM-3) on the LCD panel surface. (The outside light must not enter.) 3)Minimize the ripple of the output waveform of the illuminance meter.		
Adjustment rating	Minimum Response time Æ0.6sec		
Remark	Make this adjustment after 5-minute or longer aging.		
Examples	• During LCD monitor replacement. LCD Panel • During IC4701, IC703 replacement.		

5. White Balance adjustment

Test point	LCD panel display surface	Address	VCR ADJ 84(R), VCR ADJ 86(B)
Mode	VCR AV input		
Procedure	1) Input the white 40% signal to AV input. 2) Input the white 40% signal to the standard monitor, and adjust it to become equal to that of the screen.		
Adjustment rating	Standard monitor		
Remark	Make this adjustment after 5-minute or longer aging.		
Examples	• During LCD monitor replacement. LCD Panel • During IC4401, IC4701, IC703 replacement.		

VIDEO I/O ENG DAC CIRCUIT

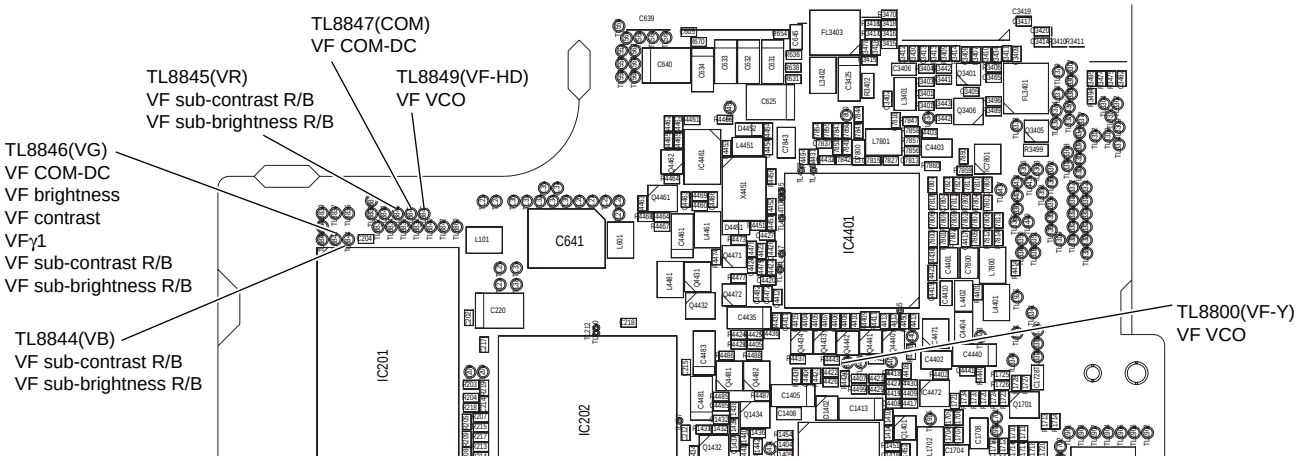
(Wiring board diagram: Main Side B)



1. DAC_Y adjustment, DAC_R-Y adjustment, DAC_B-Y adjustment

Test point	TL4403(Y OUT), TL4404(R-Y OUT), TL4405(B-Y OUT), TL7823(GND)
Mode	CAM
Address	VCR ADJ FA(Y), VCR ADJ FB(R-Y), VCR ADJ FC(B-Y)
Procedure	1) Set VCR ADJ 303/304/432/423/424/425/526 to 0C/EF/63/90/EB/80/80. 2) With VCR ADJ FA, adjust the output voltage of TL4403 and the DC voltage value of the digital voltmeter to the specified adjustment values. 3) Similarly with VCR ADJ FB/FC, adjust the output voltage of TL4404/TL4405 and the DC voltage value of the digital voltmeter to the specified adjustment values. (Same as Item (2)) 4) Return VCR ADJ 303/304/432/423/424/425/426 to the initial value. Note:When it is changed to the initial value FF/FF/C3/10/29/6E/F0, OSD display goes out together with LCD/VF. Checking the monitor output, adjust it. After adjustment, be sure to return to FF.
Adjustment rating	0.450V ± 5mV (Y OUT), 0.229V ± 2mV (R-Y OUT), 0.290V ± 2mV (B-Y OUT)
Examples	• During IC4401, IC4701, IC703 replacement.

(Wiring board diagram: Main Side B)



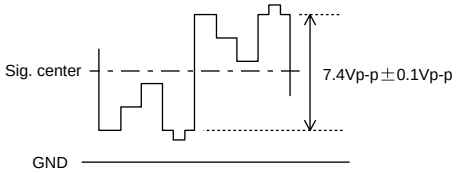
2. VF VCO adjustment

Test point	TL8849(VF-HD)	Address	VCR ADJ E1
Mode	VCR AV input		
Procedure	1) Connect TL8800 to GND. (No signal) 2) Connect TL8849 to the frequency counter, and adjust the DC voltage value to the specified adjustment value with the VCR ADJ E1.		
Adjustment rating	15.625 ± 0.1KHz		
Examples	• During IC703 or IC8802 replacement.		

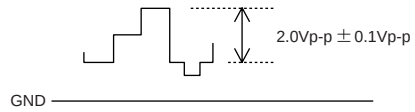
3. VF COM-DC adjustment

Test point	TL8847(COM)	Address	VCR ADJ F6
Mode	VCR AV input		
Procedure	1) Input the signal of a 3-step waveform. 2) Read the DC voltage value of the output of TL8846 with the digital voltmeter. (VG_{DC}) 3) Similarly rad the DC voltage value of the output of TL8847 with the digital voltmeter. ($VCOM_{DC}$) 4) Adjust the value of ($VCOM_{DC}$ - VG_{DC}) to the specified adjustment value.		
Adjustment rating	-0.15 ± 0.1V		
Examples	• During IC703 or IC8802 replacement.		

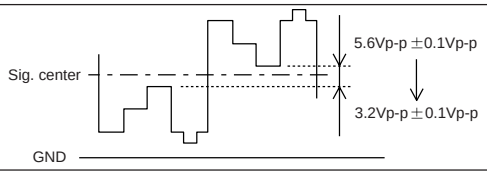
4. VF brightness adjustment

Test point	TL8846(VG)	Address	VCR ADJ E0
Mode	VCR AV input		
Procedure	1) Input the signal of a 3-step waveform. 2) Set VCR ADJ ED to 00. 3) Adjust the waveform pedestal range of TL8846 to the specified adjustment value. 4) Return VCR ADJ ED to the initial value. (Initial value: 7A)		
Adjustment rating	7.4Vp-p ± 0.1Vp-p 		
Examples	• During IC703 or IC8802 replacement.		

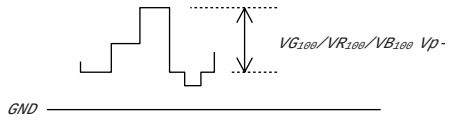
5. VF contrast adjustment

Test point	TL8846(VG)	Address	VCR ADJ E5
Mode	VCR AV input		
Procedure	1) Input the signal of a 3-step waveform. 2) Set VCR ADJ EB/ED to FF/00. 3) Adjust the pedestal 100% range of the waveform of TL8846 to the specified adjustment value. 4) Return VCR ADJ ED to the initial value. (Initial value: 7A)		
Adjustment rating	2.0Vp-p ± 0.1Vp-p 		
Examples	• During IC703 or IC8802 replacement.		

6. VFγ1 adjustment

Test point	TL8846(VG)	Address	VCR ADJ E5, VCR ADJ EB
Mode	VCR AV input		
Procedure	1) Input the signal of a 3-step waveform. 2) Set VCR ADJ EB/ED to FF/00. 3) Adjust the white 100% range of the waveform of TL8846 to 5.6±0.1Vp-p with VCR ADJ EB. 4) Hereafter, adjust the waveform to the specified adjustment value with VCR ADJ E5. 5) Return VCR ADJ ED to the initial value. (Initial value: 7A)		
Adjustment rating	5.6 ± 0.1Vp-p (VCR ADJ EB) 3.2 ± 0.1Vp-p (VCR ADJ E5) 		
Examples	• During IC703 or IC8802 replacement.		

7. VF sub-contrast R/B adjustment

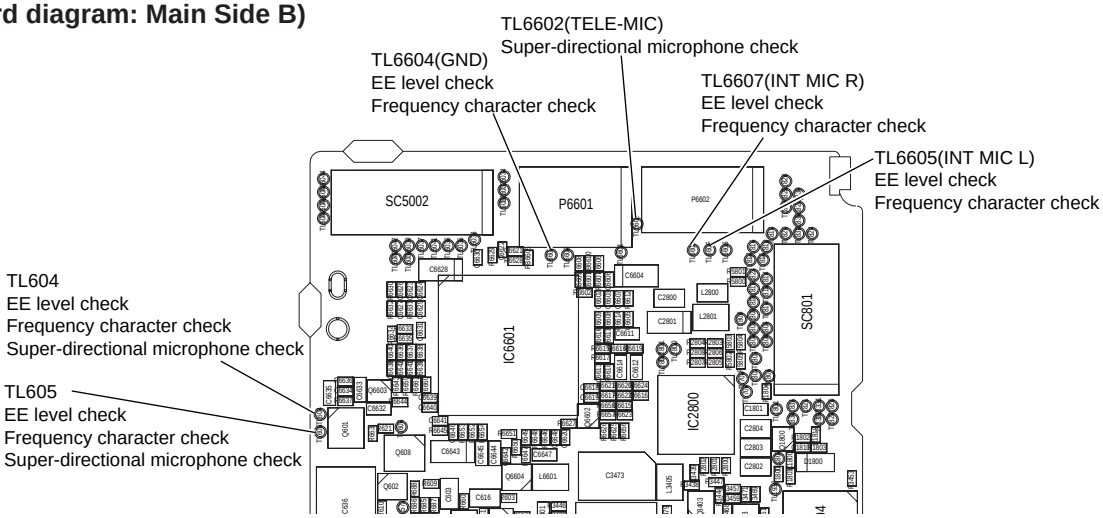
Test point	TL8845(VR), TL8846(VG), TL8844(VB)	Address	VCR ADJ E6(VR), VCR ADJ E7(VB)
Mode	VCR AV input		
Procedure	1) Input the signal of a 3-step waveform. 2) Adjust the pedestal 100% range of TL8846 and TL8845 to the specified adjustment value. 3) Similarly, adjust the pedestal 100% range of TL8846 and TL8844 to the specified adjustment value.		
Adjustment rating	0 ± 40mV(VR_{100} - VG_{100}), 0 ± 40mV(VB_{100} - VG_{100}) 		
Examples	• During IC703 or IC8802 replacement.		

8. VF sub-brightness R/B adjustment

Test point	TL8845(VR), TL8846(VG), TL8844(VB)	Address	VCR ADJ E9(VR), VCR ADJ EA(VB)
Mode	VCR AV input		
Procedure	1) Input the white 40% signal to the AV input and standard monitor. 2) Adjust the color to be similar to the tone on the standard with VCR ADJ E9/EA.		
Adjustment rating	Standard monitor		
Examples	• During IC703 or IC8802 replacement.		

ADJUSTING THE MIC AMP CIRCUIT

(Wiring board diagram: Main Side B)



1. EE level check

Measuring instrument	Valve voltmeter	Test point	TL605, TL604
Mode	P-ON (CAM), Zoom Mic "OFF"	Adjustment rating	-9dBs ± 3dB
Test signal	1kHz -54dBs sine wave		
Procedure	1) Input 1kHz, -54dBs sine wave into TL6605(INT MIC L) and TL6607(INT MIC R). 2) Make sure that the signal level of TL605 Audio-L out and TL604 Audio-R out is within the standard limits.		
Remark	TL6604: GND		

2. Frequency character check

Measuring instrument	Valve voltmeter	Test point	TL605, TL604
Mode	P-ON (CAM) Parameter; Zoom Mic "OFF"	Adjustment rating	(1kHz standard) 100Hz: -8dBs ± 3dB 10kHz: -5dBs ± 3dB
Test signal	100Hz, 10kHz -54dBs sine wave		
Procedure	1) Input 100Hz, -54dBs sine wave and then 10kHz, -54dBs sine wave into TL6605(INT MIC L) and TL6607(INT MIC R). 2) At this time make sure that the signal level of TL605 Audio-L out and TL604 Audio-R out is within the standard limits (1kHz standard).		
Remark	TL6604: GND		

3. Super-directional microphone check

Measuring instrument	Valve voltmeter	Test point	TL605, TL604
Mode	P-ON (CAM), Zoom MIC "TELE"	Adjustment rating	-10dBs ± 3dB
Test signal	1kHz -54dBs sine wave		
Procedure	1) Input 1kHz, -54dBs sine wave into TL6602(TELE-MIC). 2) Make sure that the signal level of TL605 Audio-L out and TL604 Audio-R out is within the standard limits.		
Remark	———		

DV INTERFACE (IEEE1394) ID SETTING

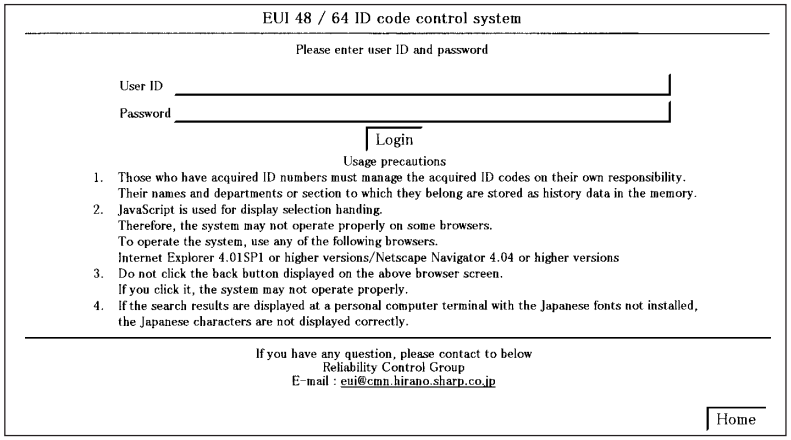
This unit has a DV interface function conforming to IEEE1394. Therefore, each individual ID number must be used for each unit. Since this ID is written on the E^{2}PROM (IC302) on the head amp PWB, the ID must be newly written when replacing this IC or the head amp PWB.

Address	180, 17F, 17E	Mode	VCR
Adjustmentrating	ID number obtained from the URL below		
Procedure	1) Refer to the ID code application below. 2) Set the data obtained in step (1) to the corresponding addresses in the VCR adjustment mode. * (Example) The data "08001F 0100 123456" is obtained. (1) Enter the unit in the VCR ADJ mode. (2) Set the ID numbers as follows.		
Examples	• During E^{2}PROM (IC302: on the H/A unit) replacement. • During the H/A unit (DUNTK3056QA01) replacement.		

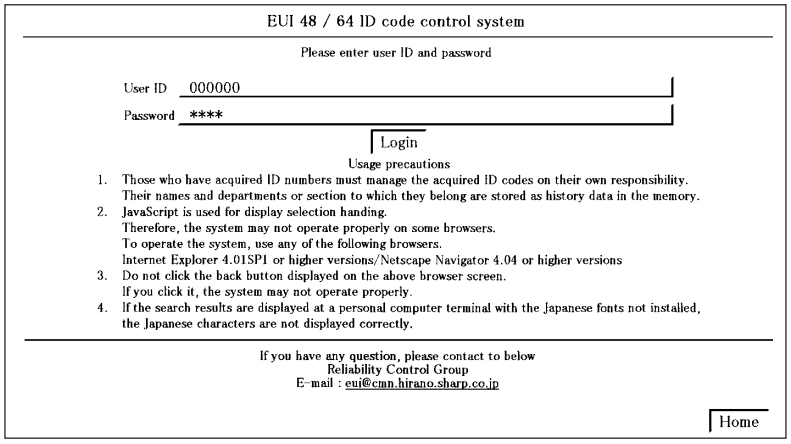
Address	180	17F	17E
Data	12	34	56

■ ID code is acquired

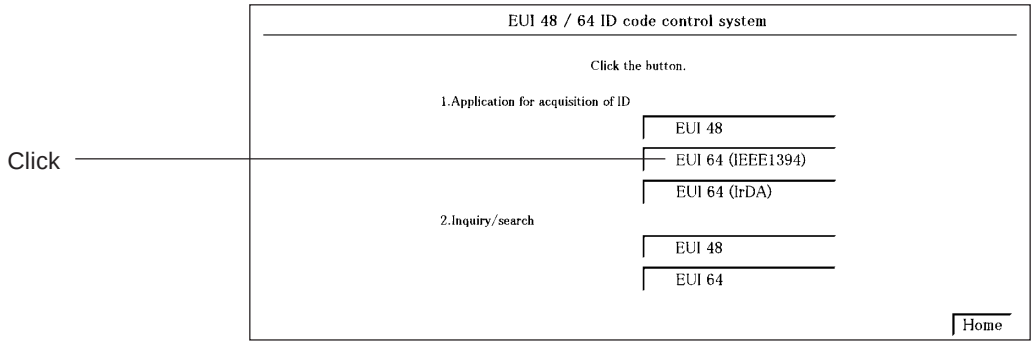
1. Connect with the EUI48/64 ID code control system.
   (1) Start the Internet Explorer or Netscape Navigator.
   (2) Access the following address.
   (URL:http://www.rcg.kami.sharp.co.jp/quics/e_index.html)
   Select the "EUI48/64 ID code control system" from the "Service" item.
   Note: If you want to establish a connection by directly inputting the URL, please input the following.
   URL:http://www1.rcg.kami.sharp.co.jp:7000/adrs_agt/adrs_dba/ide00010.main
   The login screen will appear.


EUI 48 / 64 ID code control system
Please enter user ID and password
User ID
Password
Login
Usage precautions
1. Those who have acquired ID numbers must manage the acquired ID codes on their own responsibility. Their names and departments or section to which they belong are stored as history data in the memory.
2. JavaScript is used for display selection handing. Therefore, the system may not operate properly on some browsers. To operate the system, use any of the following browsers. Internet Explorer 4.01SP1 or higher versions/Netscape Navigator 4.04 or higher versions
3. Do not click the back button displayed on the above browser screen. If you click it, the system may not operate properly.
4. If the search results are displayed at a personal computer terminal with the Japanese fonts not installed, the Japanese characters are not displayed correctly.
If you have any question, please contact to below
Reliability Control Group
E-mail : eui@cmn.hirano.sharp.co.jp
Home

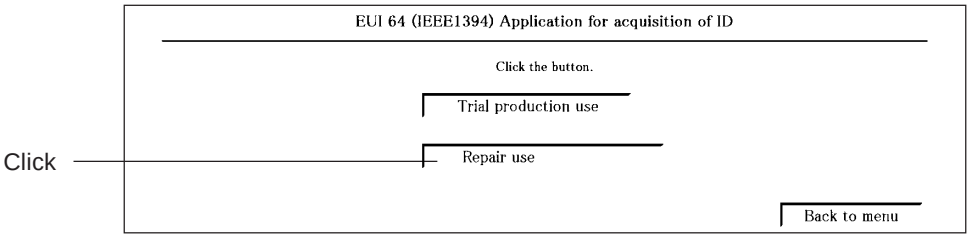
   (3) For the [User ID], input the [Password].
   Click on [Login].


EUI 48 / 64 ID code control system
Please enter user ID and password
User ID 000000
Password ****
Login
Usage precautions
1. Those who have acquired ID numbers must manage the acquired ID codes on their own responsibility. Their names and departments or section to which they belong are stored as history data in the memory.
2. JavaScript is used for display selection handing. Therefore, the system may not operate properly on some browsers. To operate the system, use any of the following browsers. Internet Explorer 4.01SP1 or higher versions/Netscape Navigator 4.04 or higher versions
3. Do not click the back button displayed on the above browser screen. If you click it, the system may not operate properly.
4. If the search results are displayed at a personal computer terminal with the Japanese fonts not installed, the Japanese characters are not displayed correctly.
If you have any question, please contact to below
Reliability Control Group
E-mail : eui@cmn.hirano.sharp.co.jp
Home

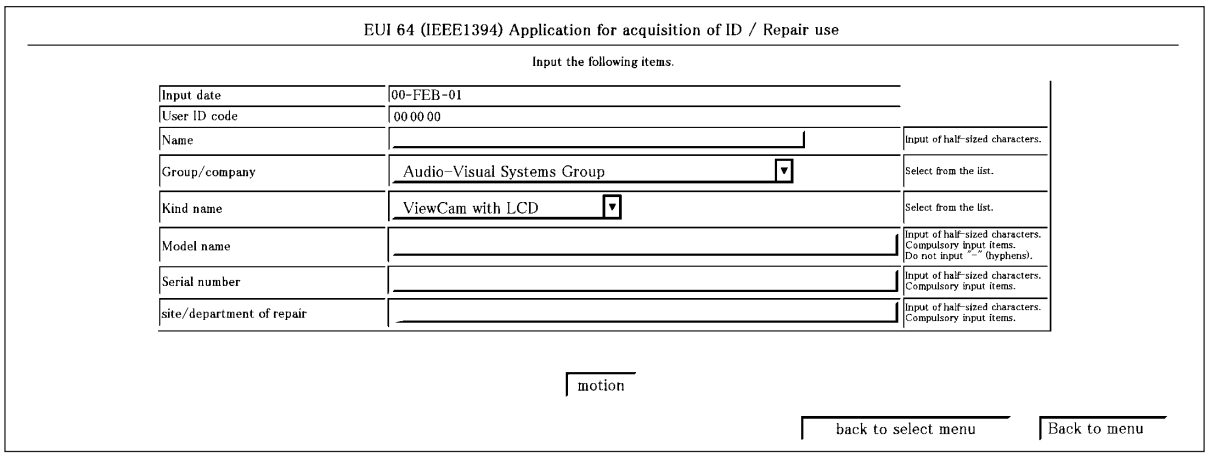
   (4) Click on [EUI 64 (IEEE 1394)] from the [1. Application for acquisition of ID].



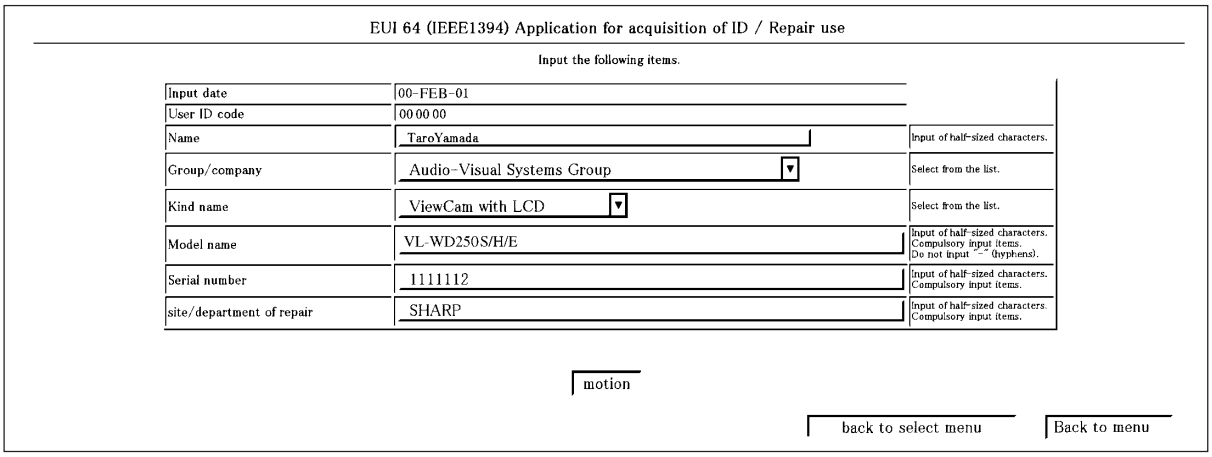
(5) Click on [Repair use].



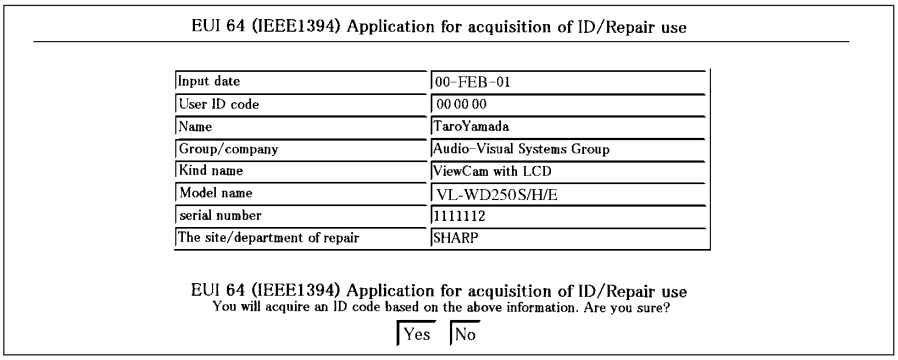
(6) Input the necessary information for the application.
For the indispensable input items, be sure to input them.
Select the [Group/company] and [Kind name] from the list.
Input the [Model name].
Input the [Serial number].
Input the [Site/department of repair].



(7) Click on [motion].
The confirmation screen will appear.



(8) Click on [Yes].



2. Print the application result.
(1) Print out the application result screen.
Control the application result as evidence.
To print it, select "Print (P)" from the "File (F)" in the menu bar or click on the print button in the tool bar.
(2) Click on [Menu] to complete the application.
If you create applications in succession, repeat steps (1)~(8).
To complete it, click on [End] in the menu screen.

9-2. Camera Section Adjustments

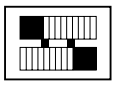
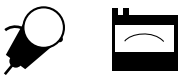
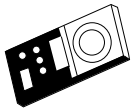
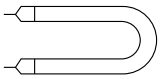
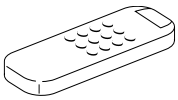
9-2-1. Camera section service

(1) Camera adjustment is performed after the set has been completed.
(2) Subjects, measuring instruments and jigs needed for camera section service and adjustments

• Gray scale chart • Color bar chart • Oscilloscope • Digital voltmeter • Halogen lamp: 2 pcs. • Vector scope	• Frequency counter • Illumination meter • Color temperature meter • Color temperature conversion filter HOYA "LB-165" • Color video monitor	• Video output cable • AC adapter • Extension cables • Remote control unit for servicing

9-2-2. List of camera jigs and tools

Configuration
<Note: The entries of list> 1. Name 2. Part No. 3. Code

 1. Gray scale chart (390 x 520 mm) 2. JiGCHART-1 3. CP	 1. Color bar chart (240 x 320 mm) 2. JiGCHART-4 3. DA	 1. Illumination meter (0 to 3000 lux) 2. JiGMETER-1 3. CT	 1. Color temperature meter (1600 to 400000 degrees K) 2. JiGMETER-2 3. EL
1. Color temperature conversion filter (3200 degrees K ⇒ 6800 degrees K) 2. JiGHOYA-LB165 3. BN	 1. PC plate connector drawer 2. JiGTH-SS10 3. AW	 1. Remote control until for servicing 2. RRMCG0033TASA 3. BT	

9-2-3. Adjusting the camera unit

(1) Preparations for adjustments and items to be checked
1) Set up the light box so that the entire pattern is evenly lit. Set the color temperature to 3200°K.
2) Use test patterns that are not dirty nor discoloured.
3) If the electrical circuitry gets in trouble, be sure to pinpoint the trouble spot with a measuring instrument and repair or replace the defective part.

(2) Remote control for servicing RRMCG0033TASA
To adjust the camera section of this machine, the remote control for servicing (RRMCG0033TASA) is used. The adjustment is made in such a manner that the remote control writes necessary data by way of the microprocessor to the specific addresses on the E^2PROM (IC2).
1) To adjust the camera:
Press the "CONTINUE" key first and then the "CAM ADJ" key.
This will show

CAM ADJ
□ □ □ □

on the LCD screen, thereby having the camera unit ready for the adjustments.
2) Descriptions of the displays

CAM ADJ
□ □ □ □ □ □ □ □
(Address value) (Data value)

(Indicates the camera adjustment mode.)

* The address values for this machine range from 0000 to 07FF.
* The data include byte data (the last two digits are effective) and 2-byte data (the last three digits are effective).
3) Descriptions of the remote control keys
"FF" key: Increases the address and data values.
"REW" key: Decreases the address and data values.
"PLAY" key: Specifies addresses and calls the data.
This key also fixes the data values.
"STOP" key: Clears the data to enable the selection of address.

4) Operation flow

→ FF or REW → PLAY → FF or REW → PLAY → STOP →

Address is selected and specified, with the data called. Then the called data are selected and fixed. The operation flows in this sequence.

5) When the adjustment is complete:
Press the "CONTINUE" key to let the "CAM ADJ" display disappear from the screen.
Note: Before terminating the adjustments, make sure that the adjustment mode is neither the auto-focus function adjustment mode nor the camera signal system adjustment mode (these modes are mentioned later).

- Camera unit adjustment modes
The camera unit is adjusted in two types of modes: the auto-focus function adjustment mode and the camera signal system adjustment mode.

Note: E^2PROM contains the adjustment item data as shown below. If it is changed, data rewriting and confirmation of latest data must be performed.
E^2PROM of CCD PWB(IC2)
Lens data and Signal system adjustment data

(3) Auto-focus function adjustment mode

- The camera unit uses a microprocessor-controlled auto-focus zoom lens.
The auto-focus circuit incorporated in this unit is designed to execute the image processing where the focusing action is done by taking advantage of the fact that the high-frequency components in the image signals increase as the focus intensifies. Moreover, to achieve high magnifying power with a small lens, the camera unit incorporates the inner focus system in which the focus is shifted by moving the master lens (rear lens) back and forth. This inner focus system is a full-range focus type by which the focus can be shifted from approximately 50 mm to the infinity. It should be noted, however, that since the closest subject distance at the telephoto end is fixed at 1.8 m, subjects in a closer range than 1.8 m at the telephoto end will be out of focus. For this reason, the unit is designed so the zoom control is automatically shifted to the wide angle side until the position is found where the subject can be focused on.

In the auto-focusing system of this until, the following constitute the important factors:
  - Master lens position detection data
  - Iris position detection data
  - Zoom lens position detection data

These detection data are handled and stored by the microprocessor, lens by lens, into the E^2PROM.
Therefore, in the following cases, the auto-focus function adjustment is required:
  - When the lens has been replaced
  - When the CCD has been replaced
  - When the E^2PROM has been replaced
  - When the MAIN PWB has been replaced

1) Shifting to the auto-focus function adjustment mode
Set the data for the address "0000" to "□□01".
⇩
This makes the screen fade temporarily in white and shifts to the auto-focus function adjustment mode.

* When this adjustment mode has been shifted to, make the adjustment according to (5) Camera unit adjustment procedure.
* In this adjustment mode, the lens can not be operated.

2) Shifting to the normal operation mode
Set the data for the address "0000" to "□□FF".
⇩
This makes the screen fade temporarily in white and shifts to the normal operation mode.
⇩
Press the "CONTINUE" key, and the "CAM ADJ" display goes out of the screen, enabling the normal operation.

(4) Camera signal system adjustment mode

In the camera signal system adjustment mode, the automatic white balance is disabled to allow for the adjustment of the camera unit. At this time, the white balance mode is fixed at the INDOORS mode and the focus mode is switched to the manual focus mode.

1) Shifting to the camera signal system adjustment mode

Set the data for the address "0000" to "□□00".

⇩

This shifts the camera signal system adjustment mode.

* When this adjustment mode has been shifted to, make the adjustment according to (5) Camera unit adjustment procedure.

2) Shifting to the normal operation mode

Set the data for the address "0000" to "□□FF".

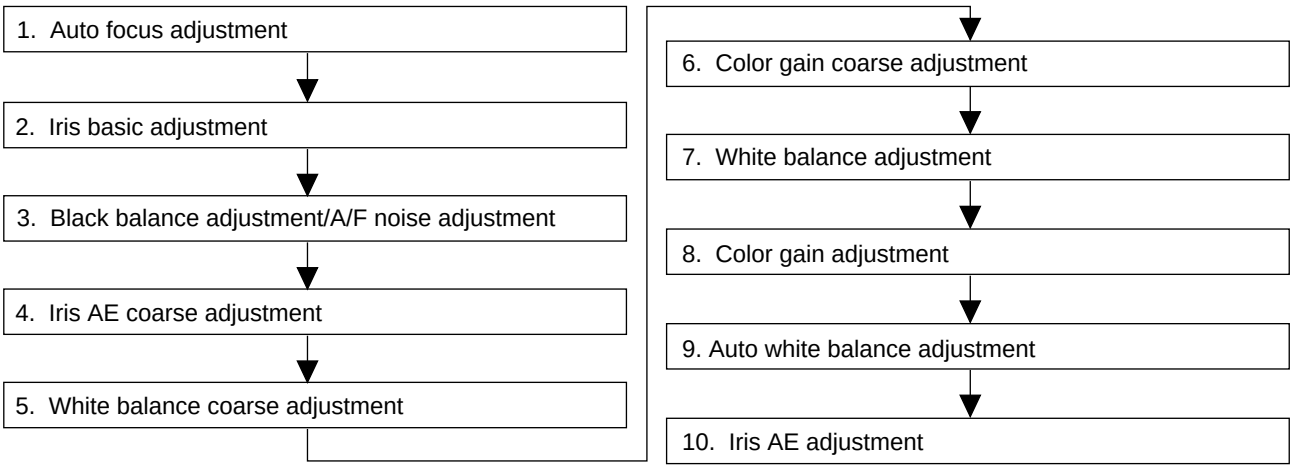
⇩

This shifts the mode to the normal operation mode.

⇩

Press the "CONTINUE" key, and the "CAM ADJ" display goes out of the screen, enabling the normal operation.

(5) Camera unit adjustment procedure


1. Auto focus adjustment
2. Iris basic adjustment
3. Black balance adjustment/A/F noise adjustment
4. Iris AE coarse adjustment
5. White balance coarse adjustment
6. Color gain coarse adjustment
7. White balance adjustment
8. Color gain adjustment
9. Auto white balance adjustment
10. Iris AE adjustment

* The above 1. Auto-focus function adjustment in the auto-focus function adjustment mode, whereas the other adjustments are made in the camera signal system adjustment mode.

9-2-4. Adjustment procedures

Item	Adjustment method

(1) Auto-focus adjustment

Set the unit to the auto-focus function adjustment mode and write data to the address "0000" one after another. This executed the adjustments automatically. The items to be adjusted are as listed below. Every time an adjustment is made properly, the data "FF" is written to the address. After each adjustment, make sure that the adjustment has been made properly, and then go on to the next adjustment item.

Address	Data	Adjustment item
0000	0012	WIDE end adjustment
	0006	WIDE end focus ∞ position adjustment
	0008	TELE end focus ∞ position adjustment
	000D	Zoom tracking adjustment

Note 1: To adjustment of ∞ position is executed by actually picking up the image of subject. For this adjustment use the subject with clear profile.
Especially, if the adjustment of TELE end focus ∞ position is made without picking up the image of remote subject, adjustment failure may occur.
Adjustment of WIDE end focus ∞ position: 3 m or more
Adjustment of TELE end focus ∞ position: 50 m or more

Note 2: In case of ∞ position adjustment the field depth is important to ensure the adjustment accuracy. If the field depth is high, the focus becomes too stable , which may cause incorrect adjustment of ∞ position. Therefore the adjustment must be made with low field depth (with iris opened).

The iris can be opened with the high-speed shutter.
1. It returns to the normal operation mode.
2. In the normal operation mode, set the high-speed shutter mode until the iris is opened. (Refer to the operation manual.)
3. Display “CAM ADJ” with the remote control for service.
4. It shifts to the auto-focus adjustment mode.
5. Perform the ∞ position adjustment.
6. After completing the ∞ position adjustment, return the high-speed shutter mode to the normal mode.

(2) Iris basic adjustment

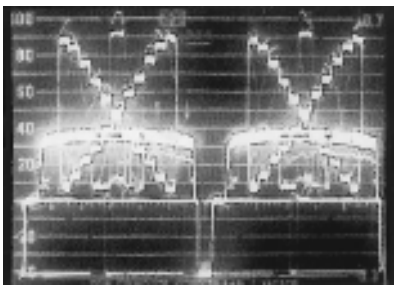
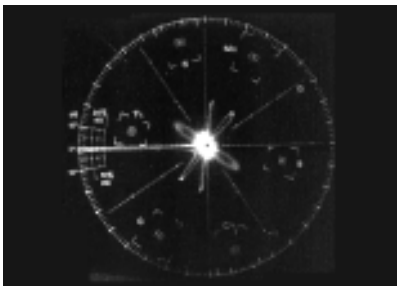
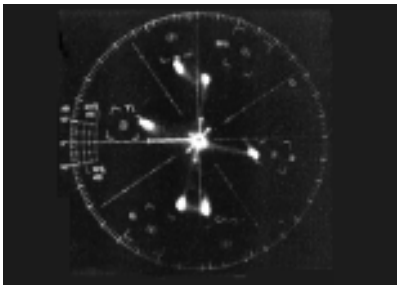
This is for adjusting the operating point of the hole element installed in the iris meter of the lens.
The adjustment is automatically done by sequentially writing the data at the address "0000" in the camera signal system adjustment mode.The items to be adjusted are as listed below. Every time an adjustment is made properly, the data "00FF" is written to the address.

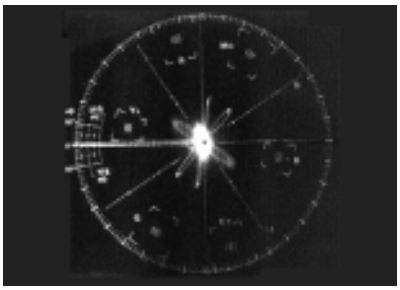
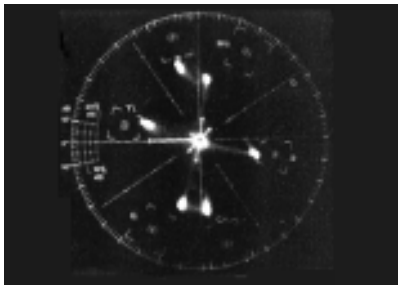
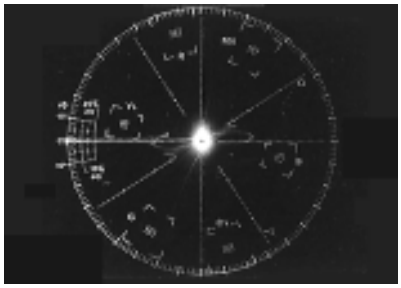
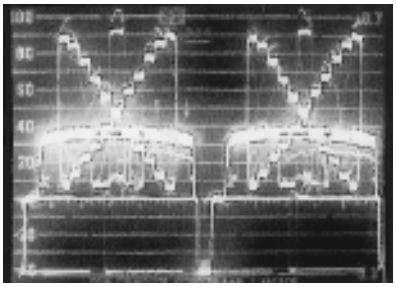
Address	Data	Adjustment item
0000	0009	Hall offset adjustment
	000A	Iris offset adjustment
	000B	Iris close adjustment

In the camera signal system adjustment mode (write the data "□□00" to the address "0000"), set the unit to the adjustment mode.

(3) Black balance adjustment/A/F noise adjustment

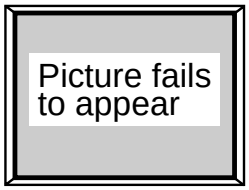
1)Prior to the adjustment, initialize the data for the addresses "0026", "0028", "002A", "002C", "002E", "0030".
Write "FFFF" to all of these address.
2) Write the data "□□01" to the address "0001" This starts the adjustment automatically.
When the adjustment is completed properly, the data "00FF" is written automatically.

Item	Adjustment method
(4) Iris AE coarse adjustment • Measurement terminal: S terminal luminance signal output (75 Ω termination) • Address: "0002" AE_CVT • Measuring instrument: Oscilloscope (horizontal sync) • Object: Grey scale • Data variation width: "0000" to "00FE"	(1) Video output is observed with the oscilloscope in the grey scale standard record state, the data of address "0002" is rewritten, and the luminance signal level is adjusted white to 735 ± 10mVp-p.  100mV/div
(5) White balance coarse adjustment • Measurement terminal: EE output • Address: "0090" CGAIN_KR_W "0092" CGAIN_KB_W • Measuring instrument: Vector scope • Object: Grey scale • Data variation width: "0000" to "03FF"	(1) Indication on the vector scope is observed in the grey scale standard record state, data of address "0090" and "0092" are rewritten, and an adjustment is made so that the luminous dot is located in the position of burst ratio: R-Y 0 ± 3% B-Y 0 ± 3% 
(6) Color gain coarse adjustment • Measurement terminal: EE output • Address: "0338" CGIN RYG "033A" CGIN BYG "0335" CMAT RYG "0333" CMAT BYG • Measuring instrument: Vector scope • Object: Color bar chart • Data variation width: "0000" to "00FF"	(1) The color bar chart is imaged, and the picture angle is adjusted so as to get white level 630 mV. Indication on the vector scope is observed, the data of address "0338", "033A", "0335" and "0333" are rewritten, and setting is made so that the red and blue luminous dots are located in the following positions. (The gain of vector scope must be set on 75% amplitude point on the B-Y axis.)  Adjustment address Red amplitude 1.65 ± 0.1 time (burst ratio) : "0338" Blue amplitude 1.25 ± 0.1 time (burst ratio) : "033A" Red phase 105° ± 2° : "0335" Blue phase 339° ± 2° : "0333"

Item	Adjustment method
(7) White balance adjustment • Measurement terminal: EE output • Address: "0090" INDOOR_W/B R "0092" INDOOR_W/B R • Measuring instrument: Vector scope • Object: Grey scale • Data variation width: "0000" to "03FF"	(1) White balance adjustment is performed repeatedly. 
(8) Color gain adjustment • Measurement terminal: EE output • Address: "0338" CGIN RYG "033A" CGIN BYG "0335" CMAT RYG "0333" CMAT BYG • Measuring instrument: Vector scope • Object: Waveform monitor color bar chart • Data variation width: "0000" to "00FF"	(1) Color gain adjustment is performed repeatedly.  Adjustment address Red amplitude 1.65 ± 0.05 time (burst ratio) : "0338" Blue amplitude 1.25 ± 0.05 time (burst ratio) : "033A" Red phase 105° ± 2° : "0335" Blue phase 339° ± 2° : "0333"
(9) Auto white balance adjustment • Measurement terminal: EE output • Address: "0016" OUTDOOR R "0018" OURDOOR B • Measuring instrument: Vector scope • Object: Grey scale • Data variation width: "0000" to "03FF"	(1) The color temperature conversion filter (LB165) is mounted in front of lens. (2) Indication of vector scope is observed in the grey scale standard record state, and an adjustment is made so that the luminous dots are located in the following positions: R-Y 0 ± 3% (burst ratio) B-Y 0 ± 3% (burst ratio) 
(10) Iris AE adjustment • Measurement terminal: S terminal luminance signal output (75 Ω termination) • Address: "0002" AE_CVT • Measuring instrument: Oscilloscope (horizontal sync) • Object: Grey scale • Data variation width: "0000" to "00FE"	(1) Set the unit to the normal operation mode (write the data "□□FF" to the address "0000"). (2) Video output is observed with the oscilloscope in the grey scale standard record state, the data of address "0002" is rewritten, and the luminance signal level is adjusted white to 735 ± 10mVp-p.  100mV/div

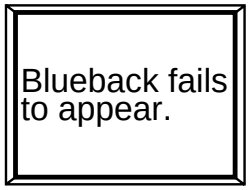
10. USEFUL TIPS (PROBLEMS DIFFER FROM THOSE FOUND ON VHS OR 8MM DECKS BECAUSE THE SIGNALS ARE DIGITALLY PROCESSED.)

Camera (EE mode)



Major circuits to be checked
- CCD
- Camera circuits (CDS, ADC, CAM ENGINE)
- MECHA/SYSTEM MiCON (IC701)
- VIDEO I/O (IC1401)
- VIO ENGINE (IC4401)

VCR (EE mode)

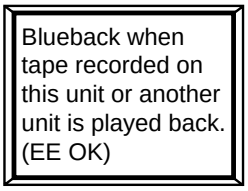


Major circuits to be checked
- MECHA/SYSTEM MiCON (IC701)
- CAM ENGINE (IC202)
- REC/PB ENGINE (IC452)

Camera (REC mode)
VCR (PB mode)

Major circuits to be checked
- CAM ENGINE (IC202)
- REC/PB ENGINE (IC452)

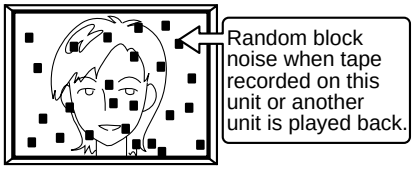
Camera (REC mode)
VCR (PB mode)



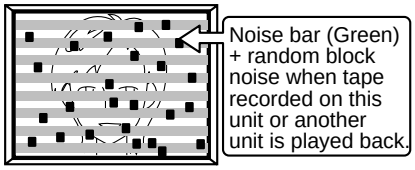
Major circuits to be checked
- EQ/PLL (IC3401)
- Head amplifier (IC301)

* Dirty or defective video head

Camera (REC mode)
VCR (PB mode)



or



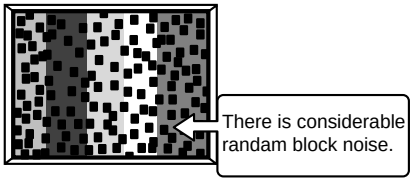
Major circuits to be checked
- EQ/PLL (IC3401)
- Head amplifier (IC301)

* Dirty or defective video head

VCR (PB mode) + color bar

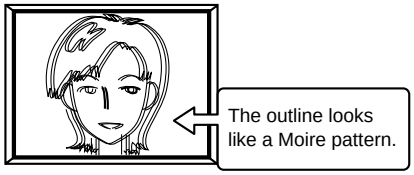
Major circuits to be checked
- CAM ENGINE (IC202)

VCR (PB mode) + color bar



Major circuits to be checked
- Adjustment of the electromagnetic conversion circuit system.

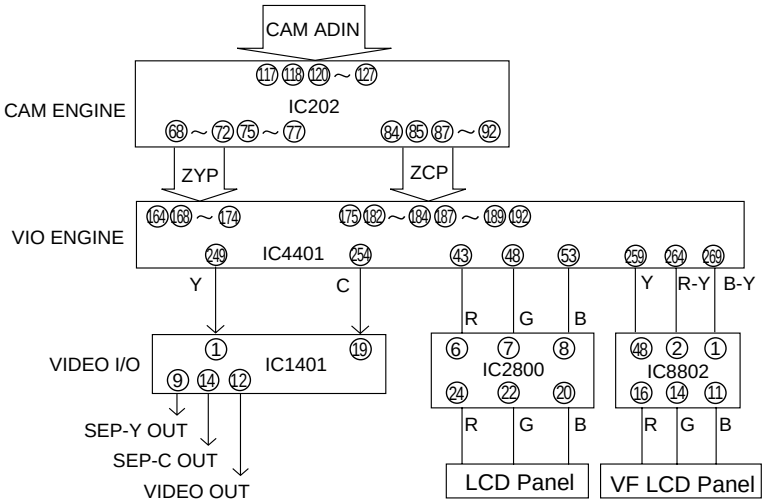
Camera (EE mode)



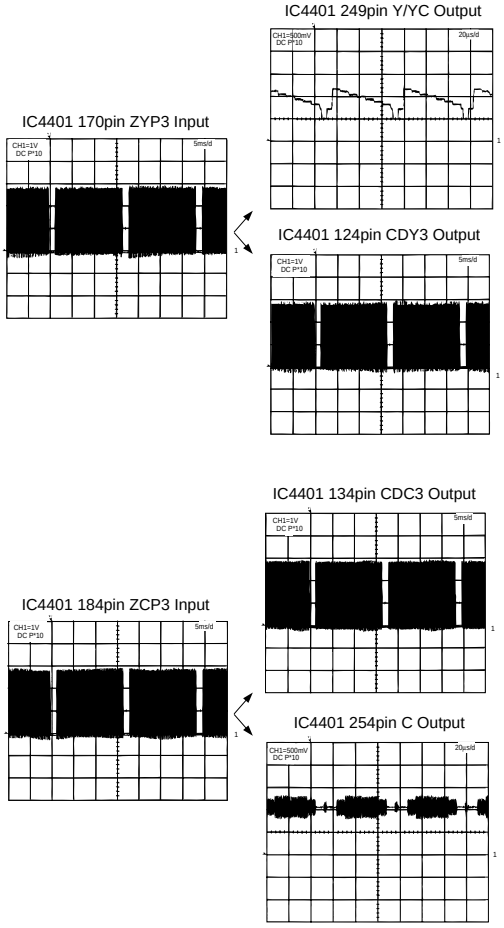
Major circuits to be checked
- Y data between CAM ENGINE (IC202) and VIO ENGINE (IC4401) is missing.

11. SIGNAL FLOW DIAGRAMS

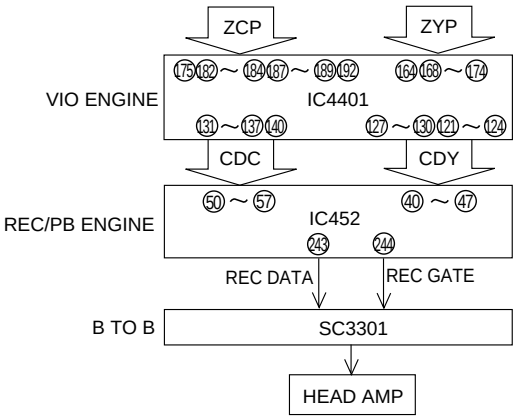
11-1. EE MODE FLOW (VIDEO)



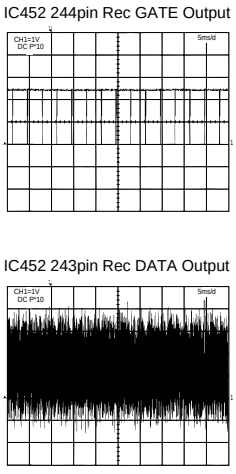
WAVEFORM DIAGRAM (DURING COLOR BAR RECORDING)


IC4401 249pin Y/YC Output
IC4401 170pin ZYP3 Input
IC4401 124pin CDY3 Output
IC4401 134pin CDC3 Output
IC4401 184pin ZCP3 Input
IC4401 254pin C Output

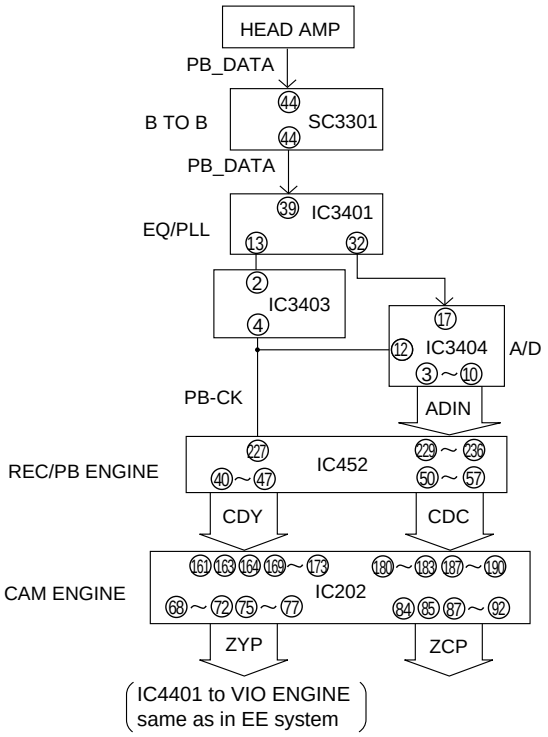
11-2. FLOW IN REC MODE (VIDEO)



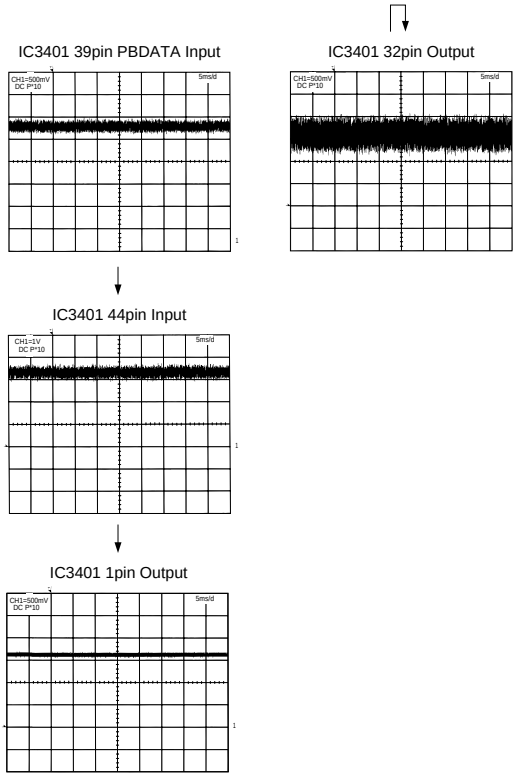
WAVEFORM DIAGRAM (DURING COLOR BAR RECORDING)



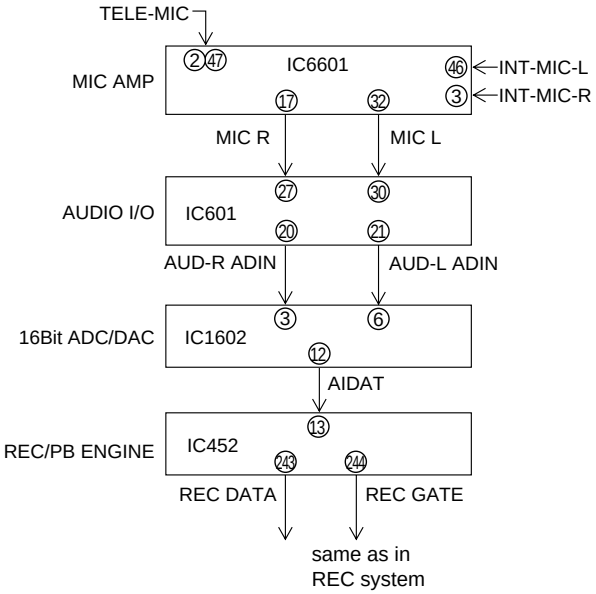
11-3. FLOW IN PB MODE (VIDEO)



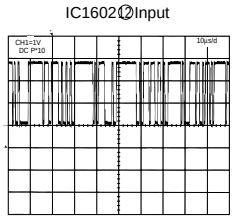
WAVEFORM DIAGRAM (DURING COLOR BAR PLAYBACK)



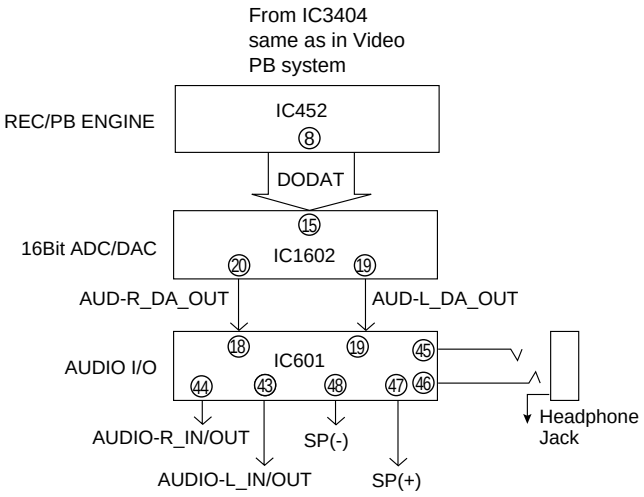
11-4. FLOW IN REC MODE (AUDIO)



WAVEFORM DIAGRAM (1.6 kHz SINE WAVE)

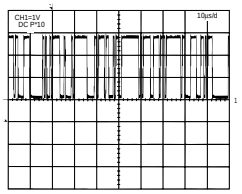


11-5. FLOW IN PB MODE (AUDIO)



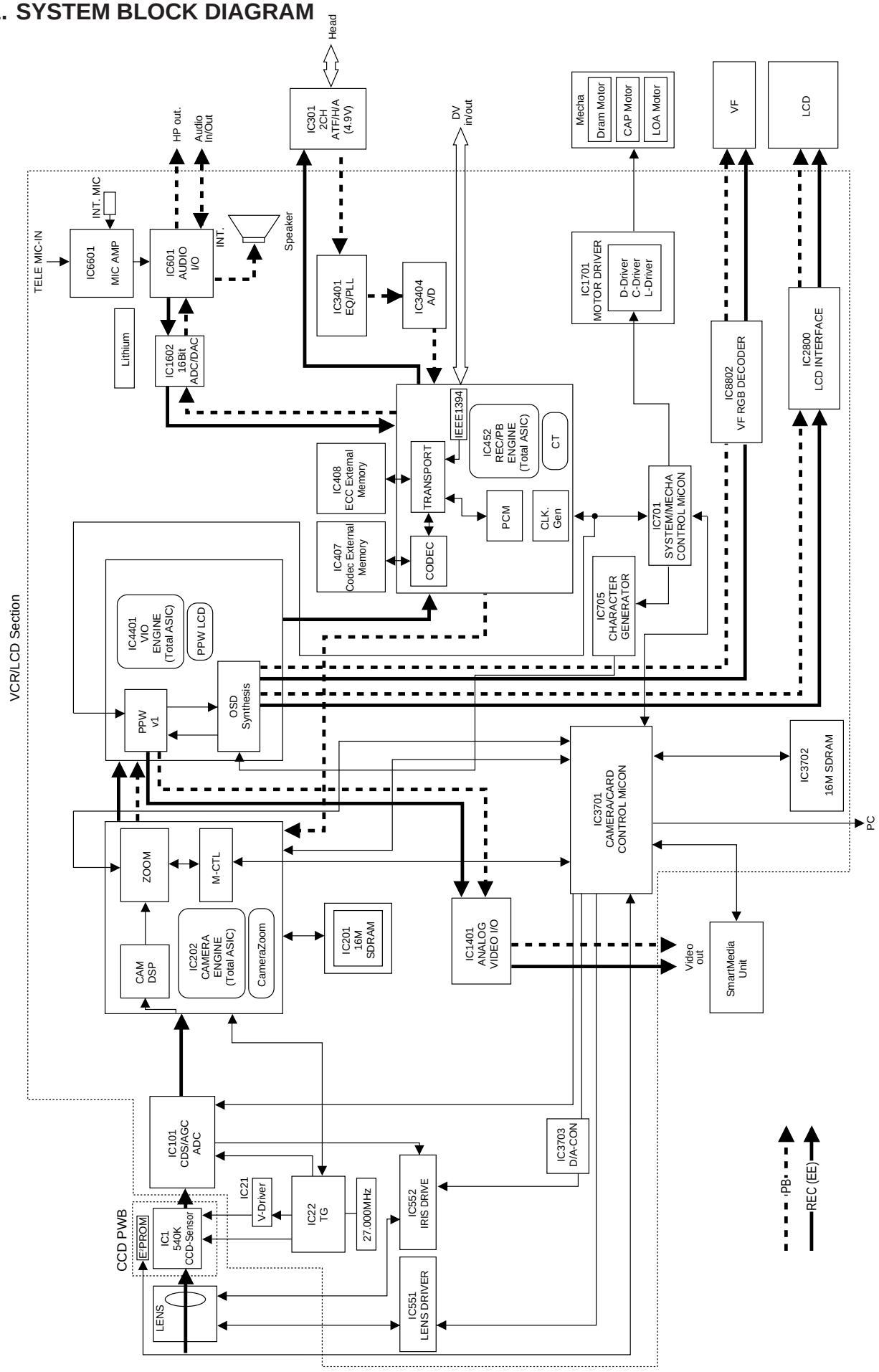
WAVEFORM DIAGRAM (1.6 kHz SINE WAVE)

IC1602⑮ DODAT Input

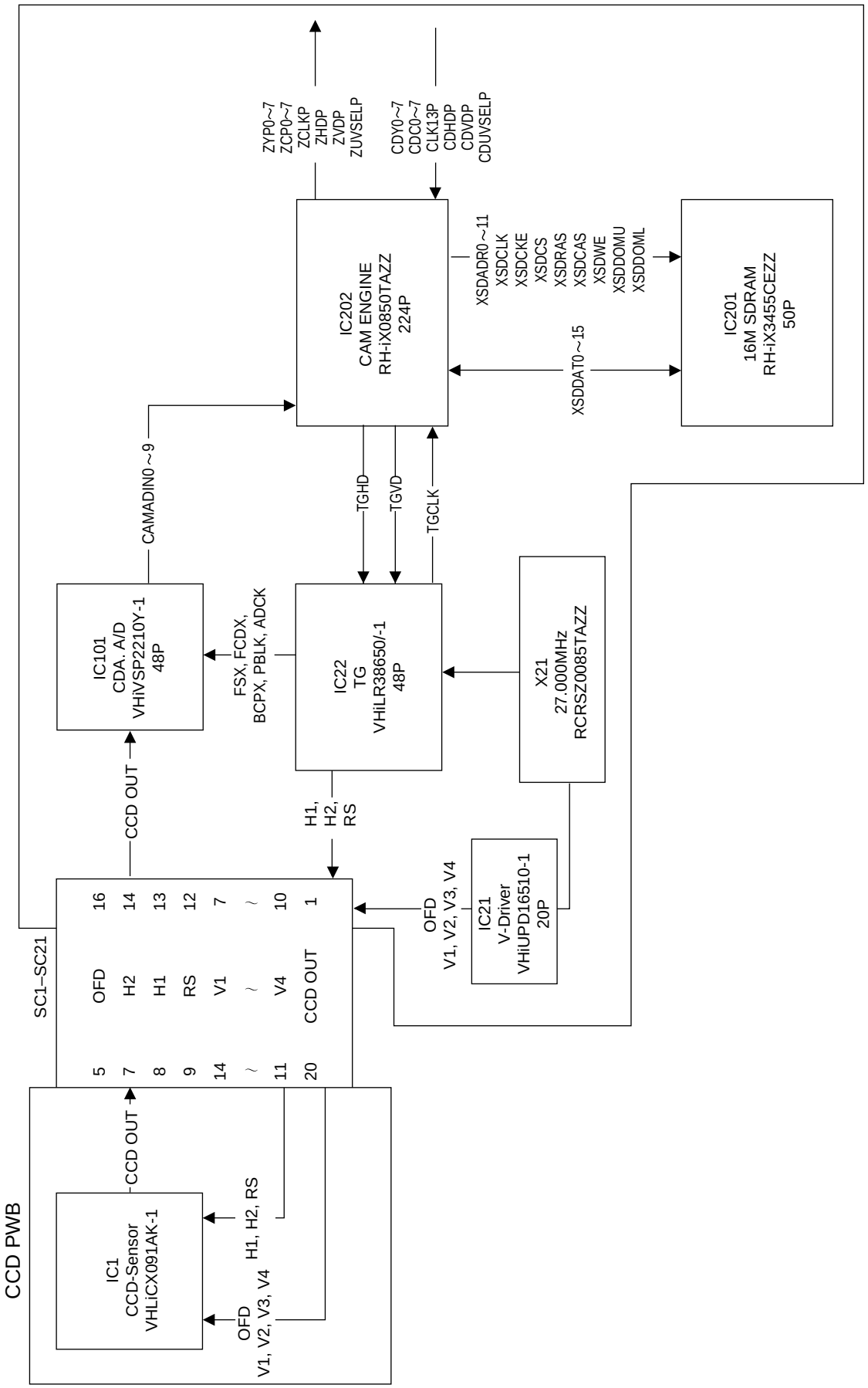


12. BLOCK DIAGRAMS

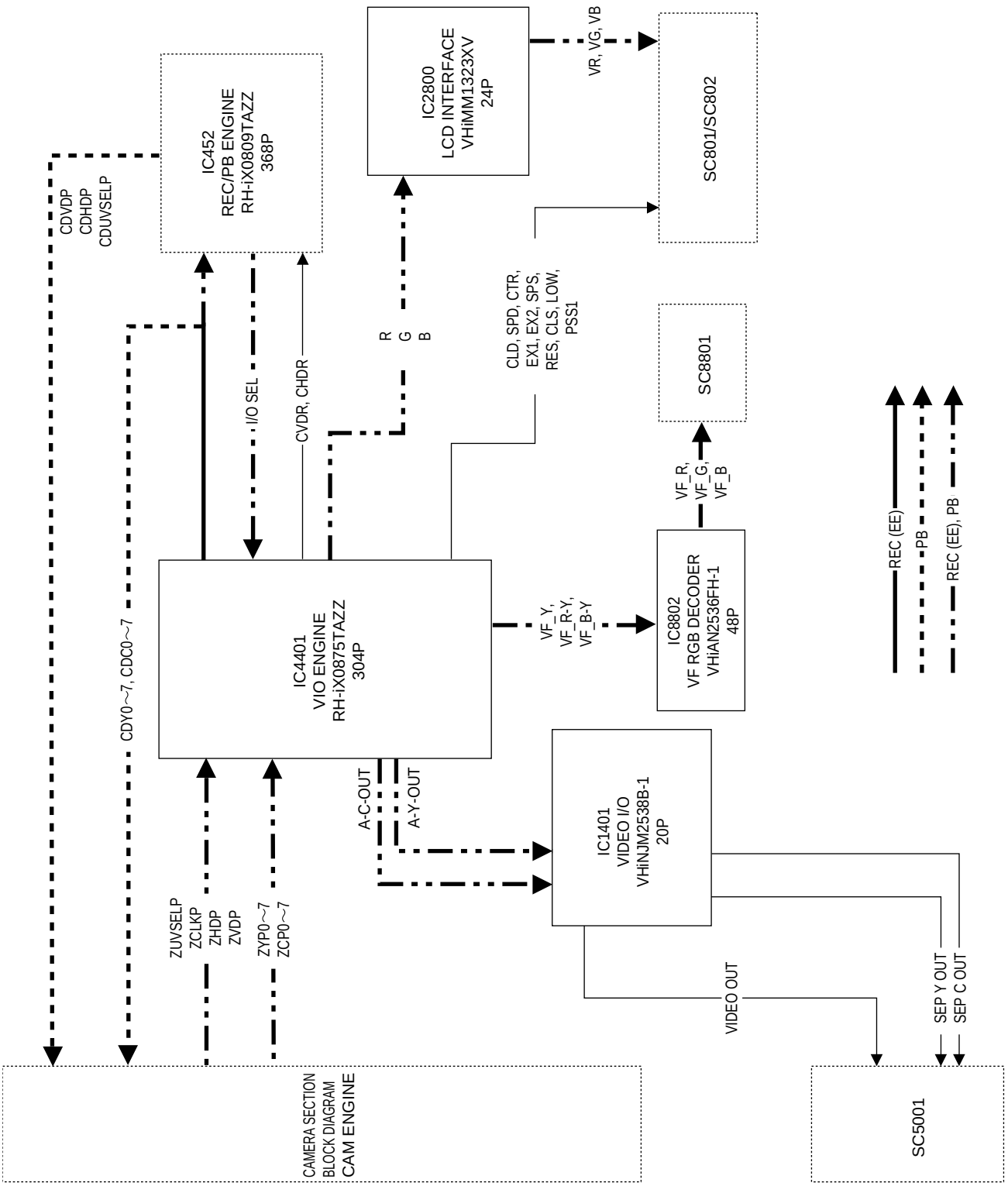
12-1. SYSTEM BLOCK DIAGRAM



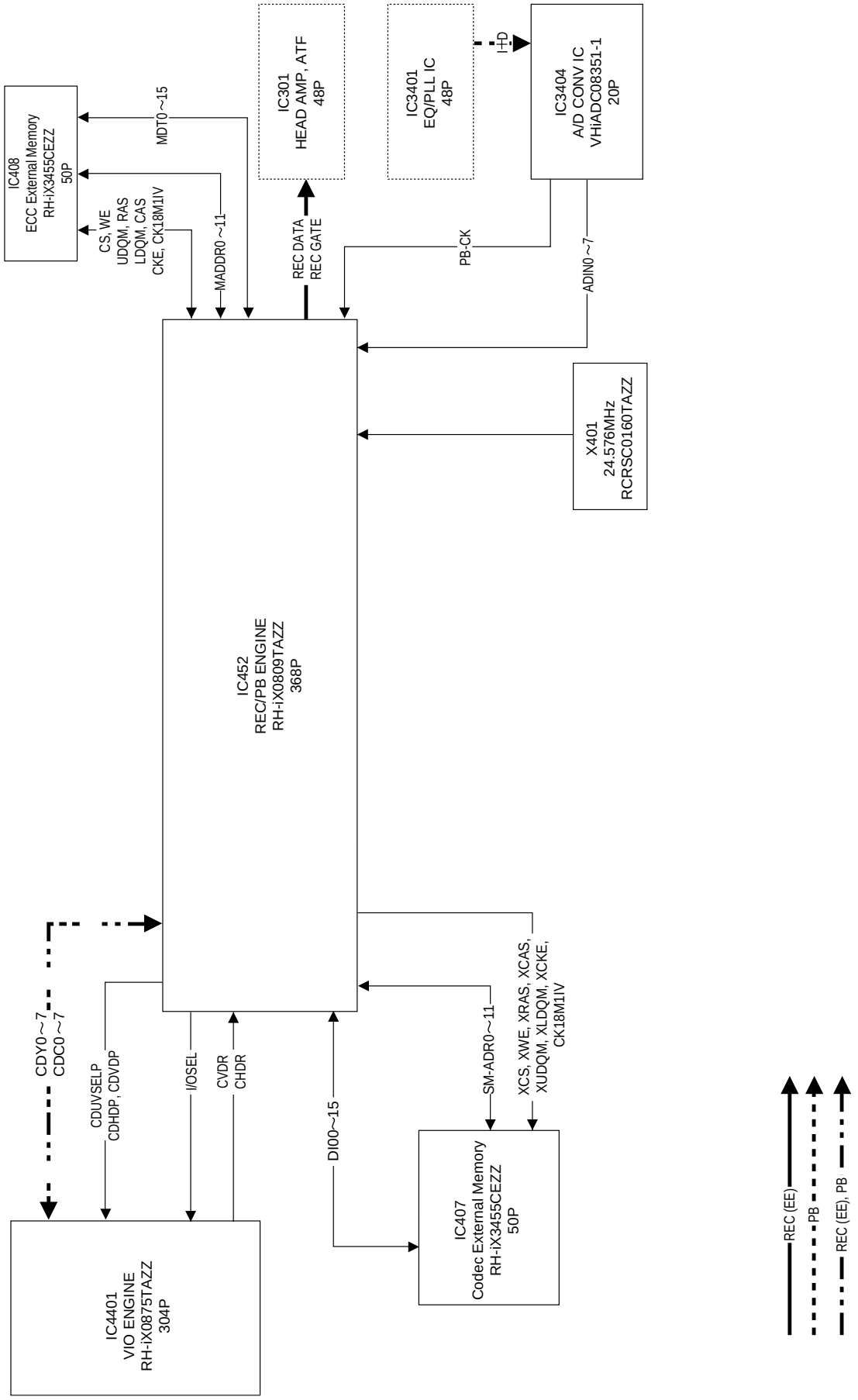
12-2. CAMERA SECTION BLOCK DIAGRAM



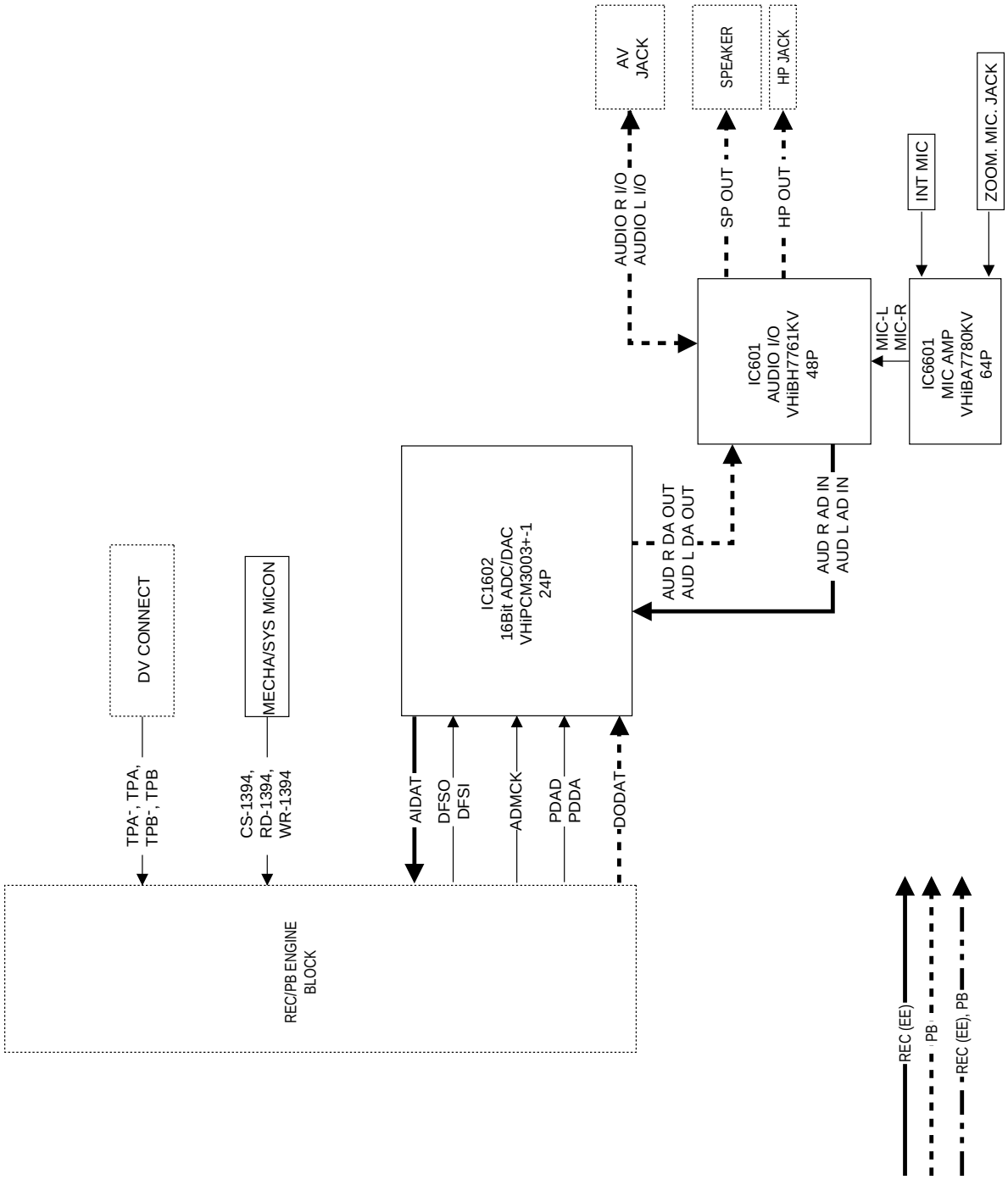
12-3. VIO ENGINE SECTION BLOCK DIAGRAM



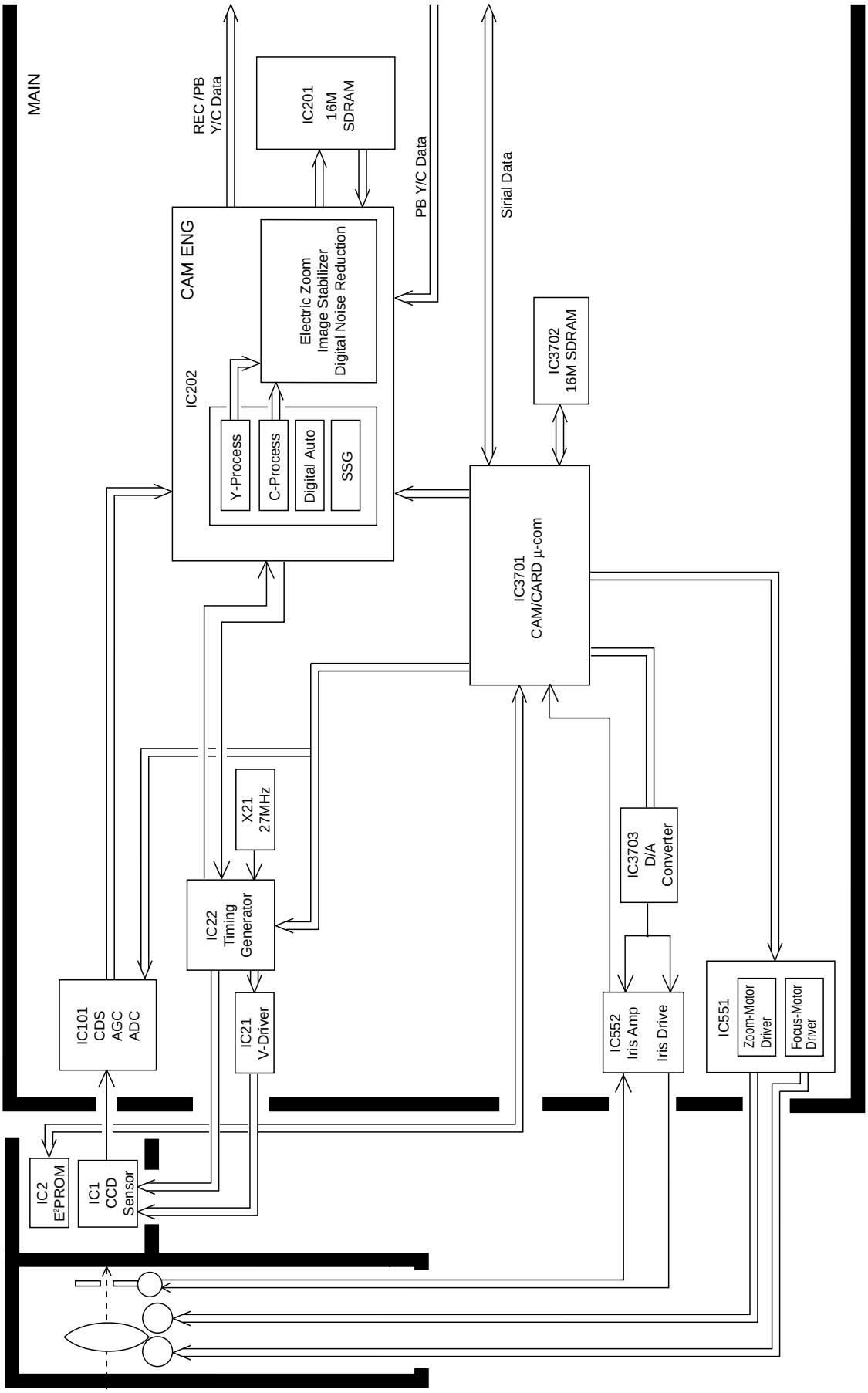
12-4. REC/PB SECTION BLOCK DIAGRAM



12-5. AUDIO/DIGITAL OUTPUT SECTION BLOCK DIAGRAM

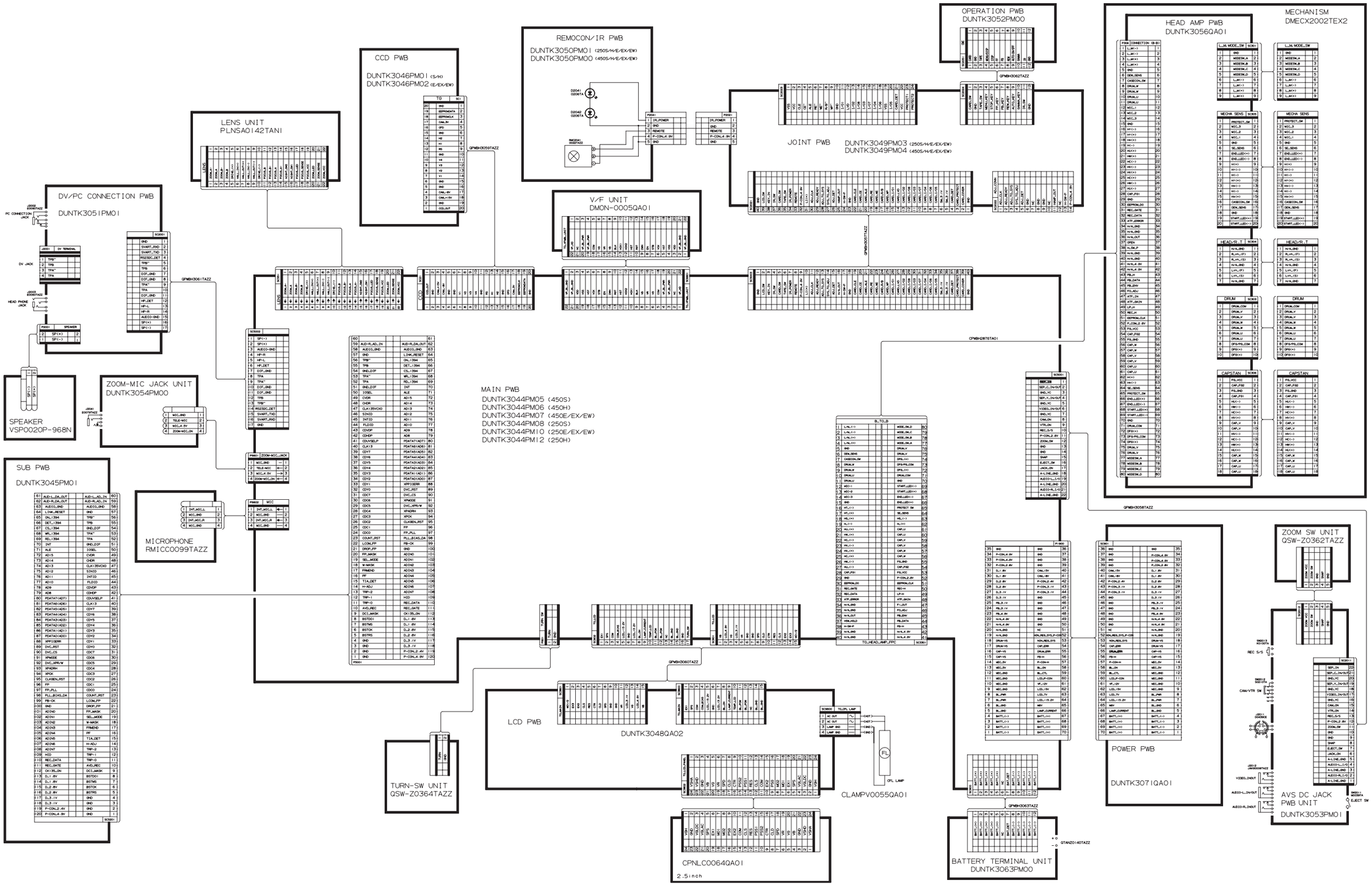


12-6. CAMERA CIRCUIT BLOCK DIAGRAM

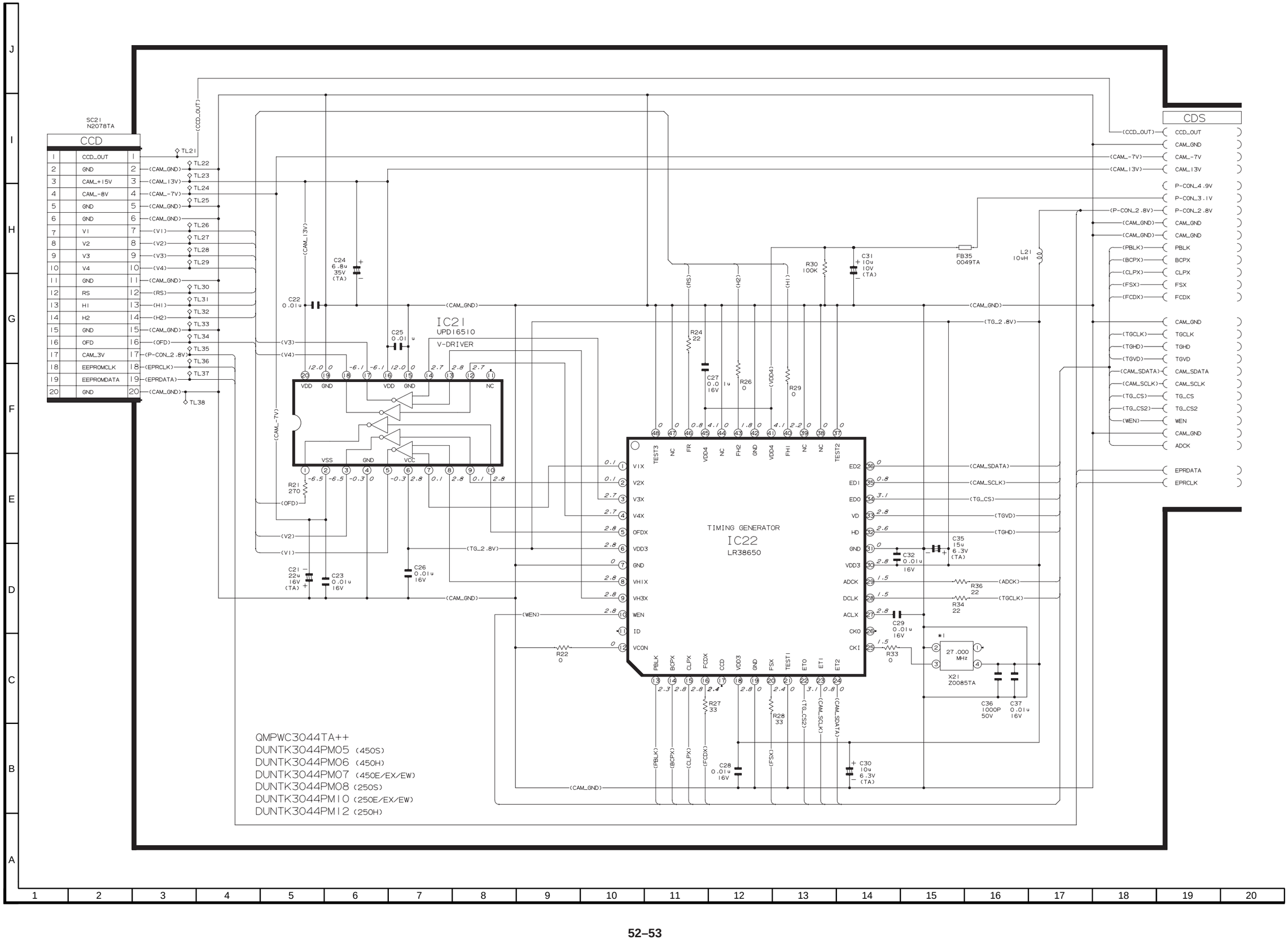


- M E M O -

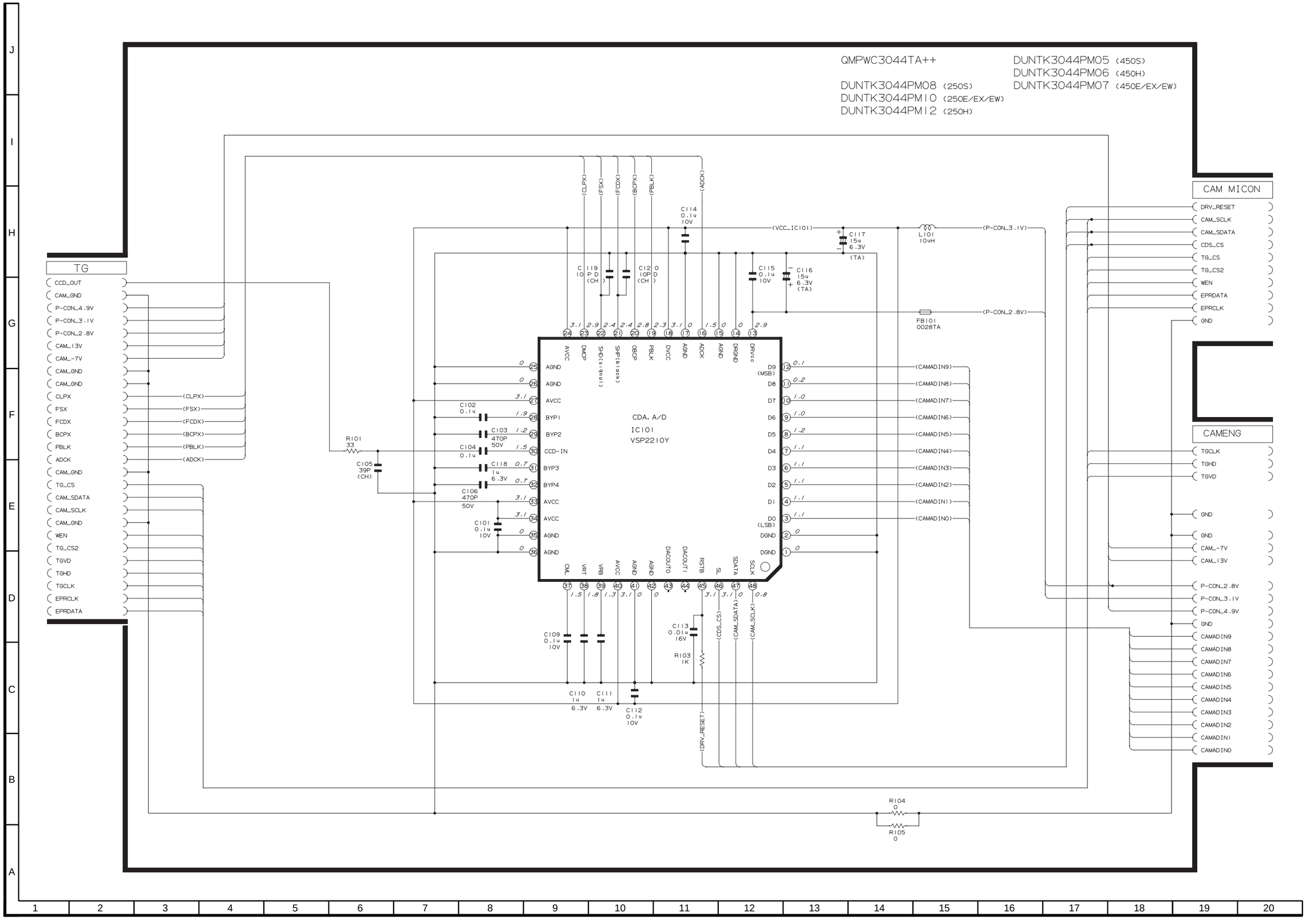
13. SCHEMATIC DIAGRAMS 13-1. OVERALL SCHEMATIC DIAGRAM



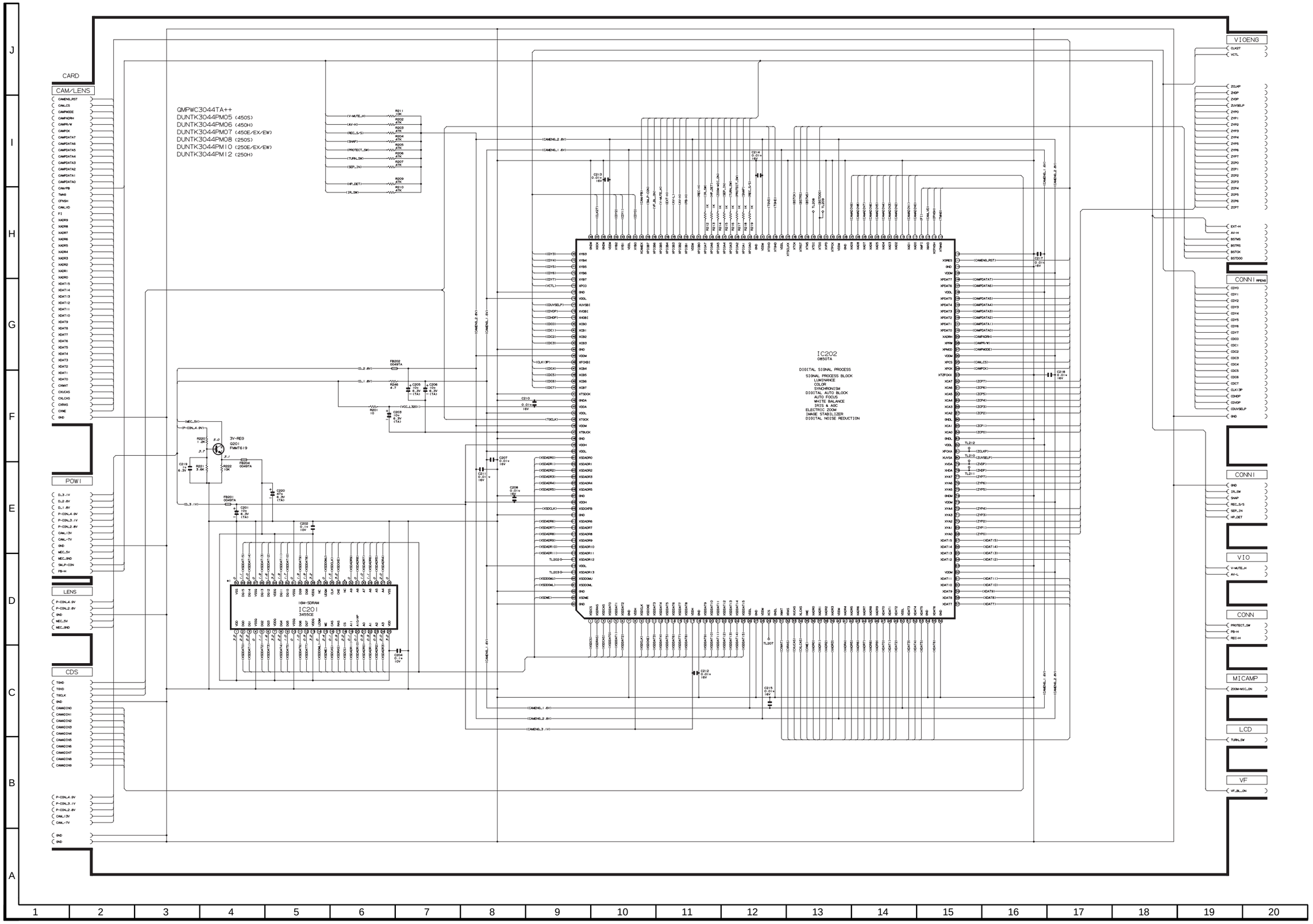
13-2. TG SCHEMATIC DIAGRAM



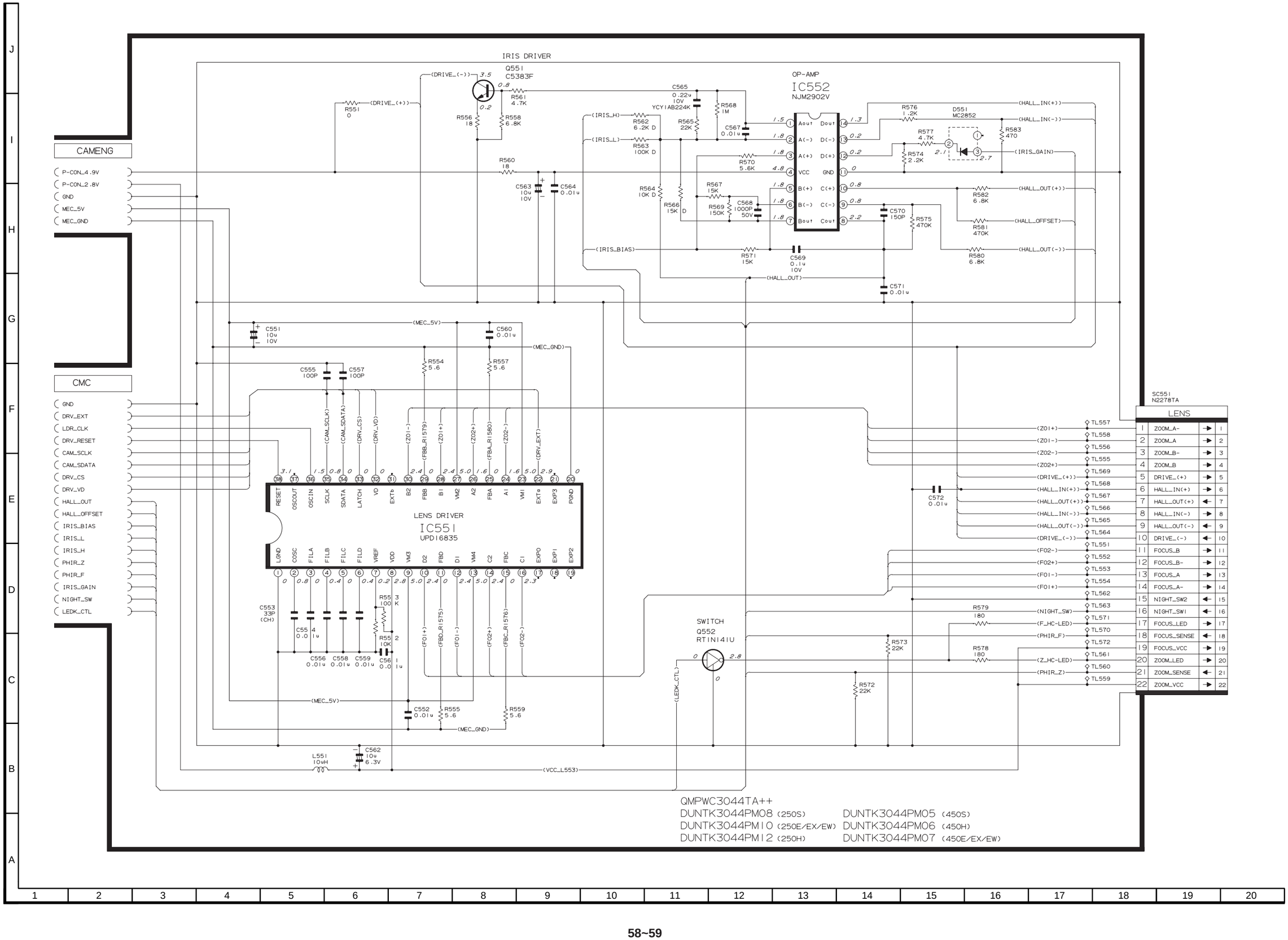
13-3. CDS SCHEMATIC DIAGRAM



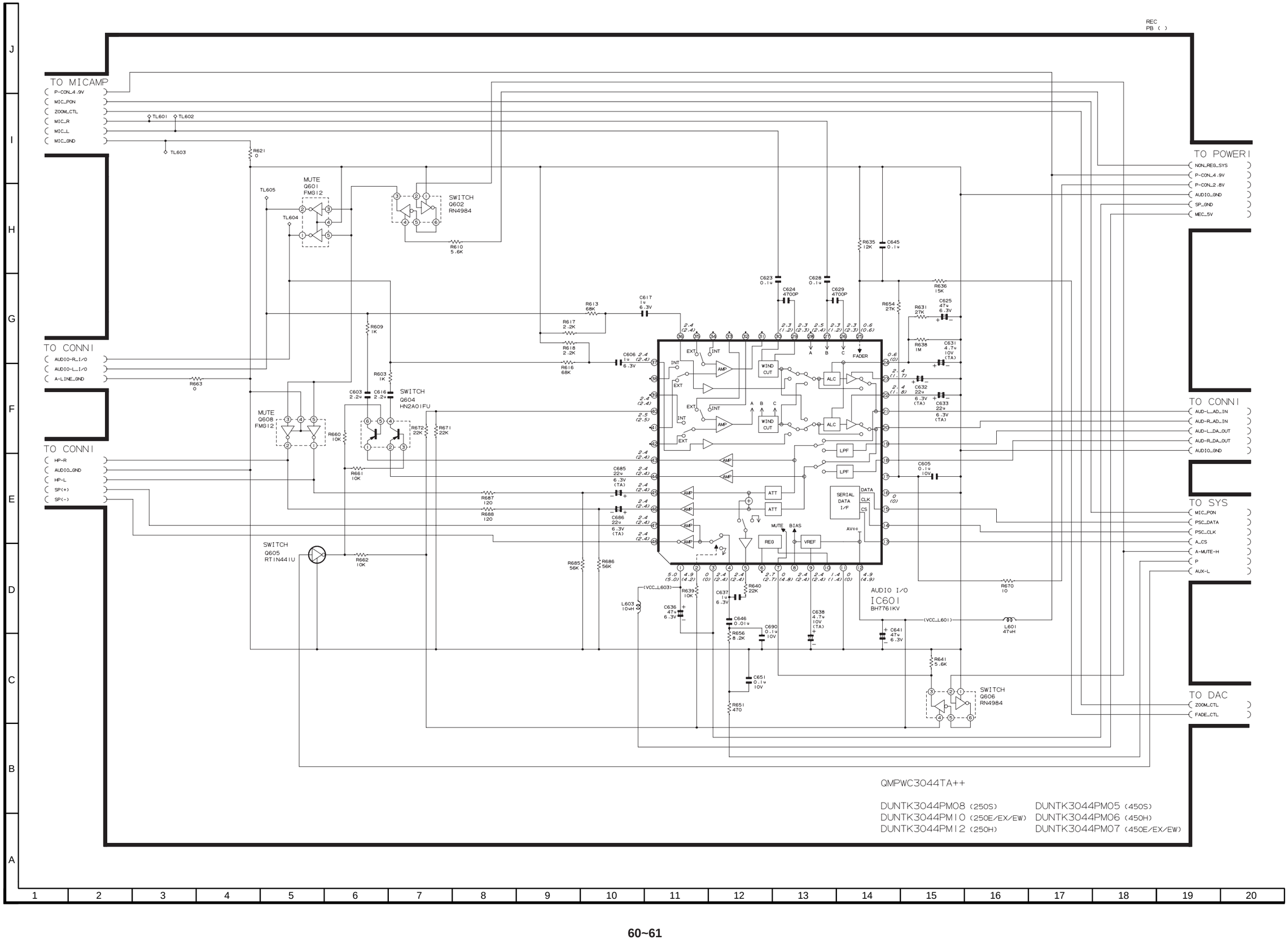
13-4. CAMERA ENGINE SCHEMATIC DIAGRAM



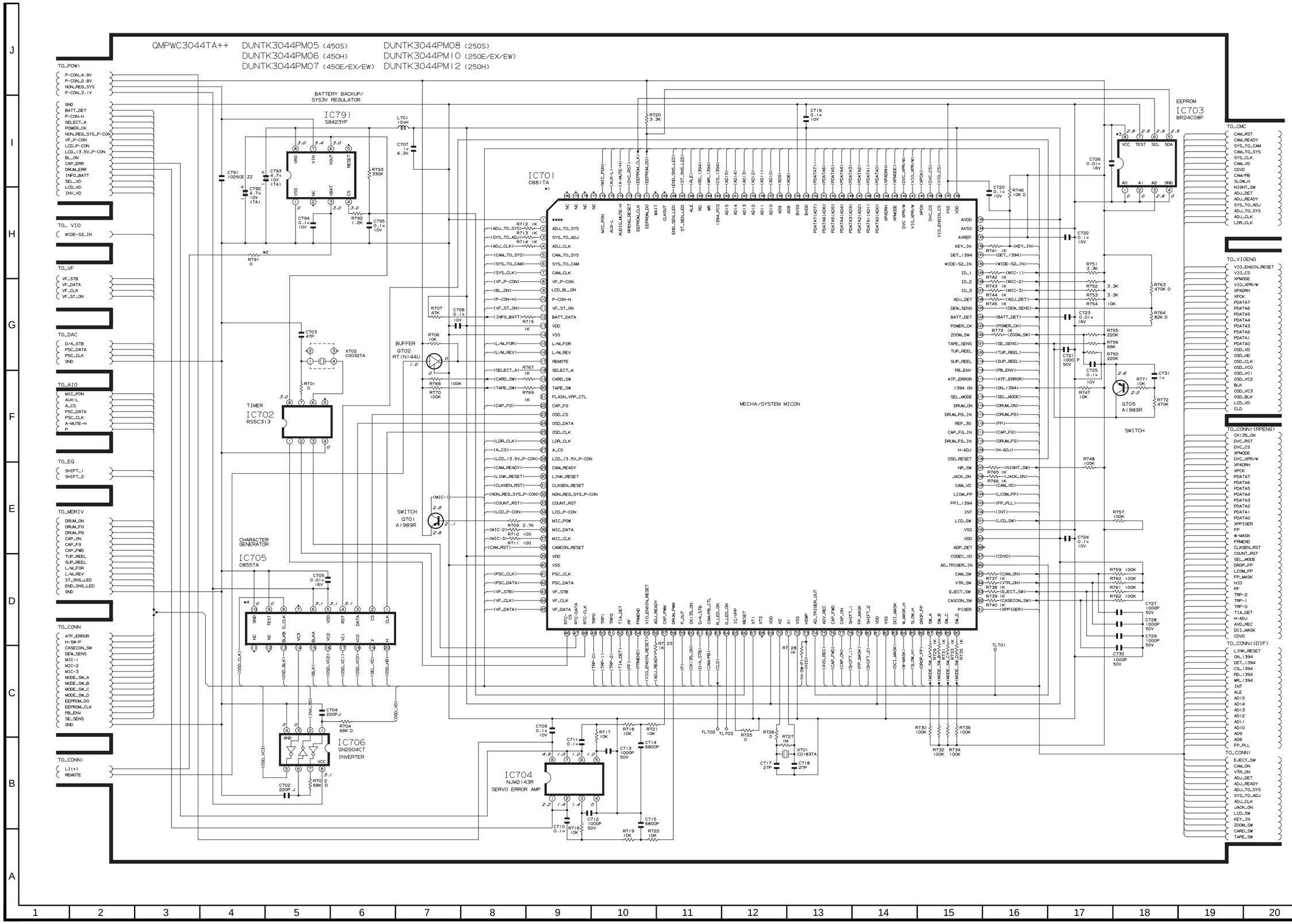
13-5. LENS DRIVE SCHEMATIC DIAGRAM



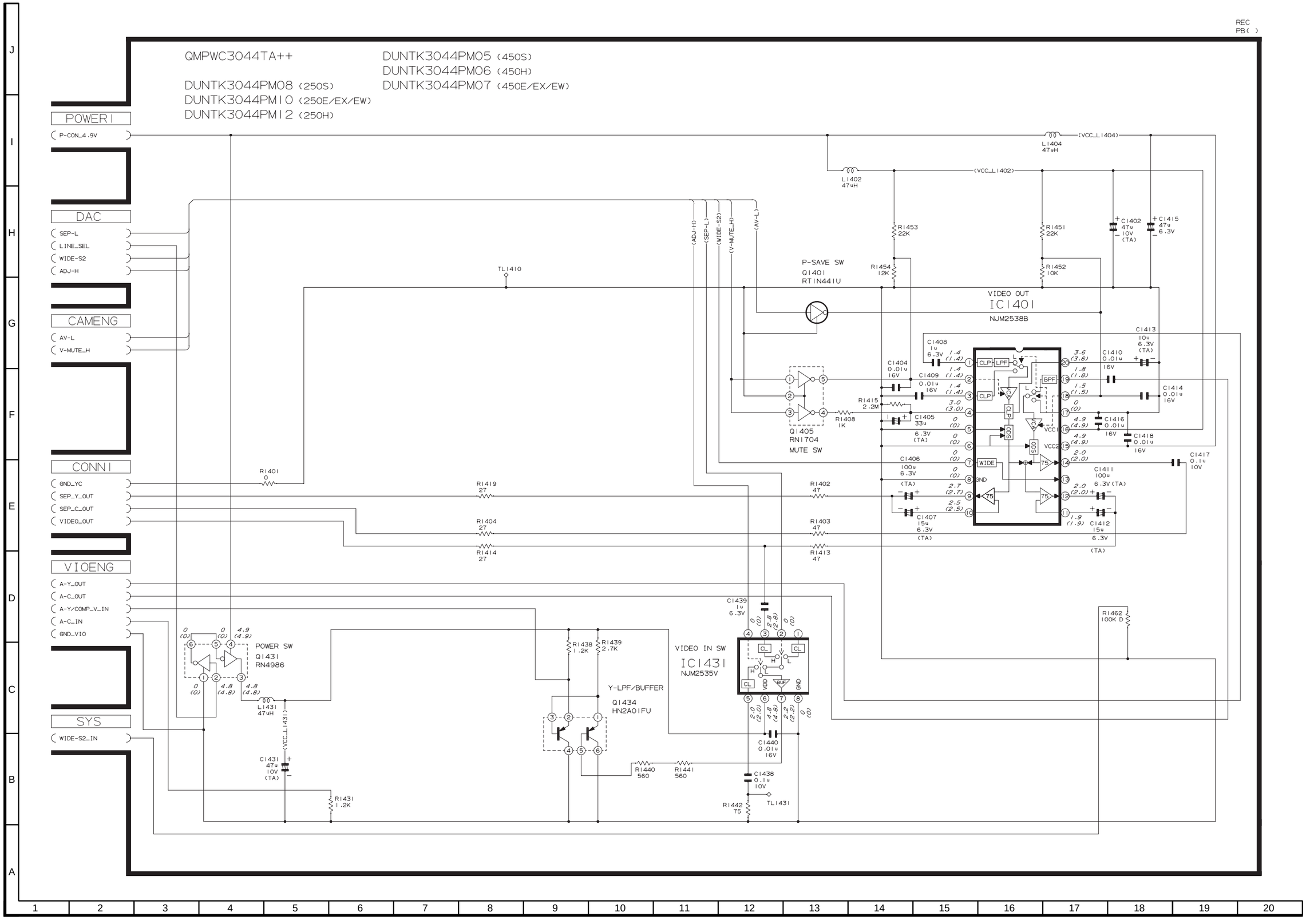
13-6. AUDIO I/O SCHEMATIC DIAGRAM



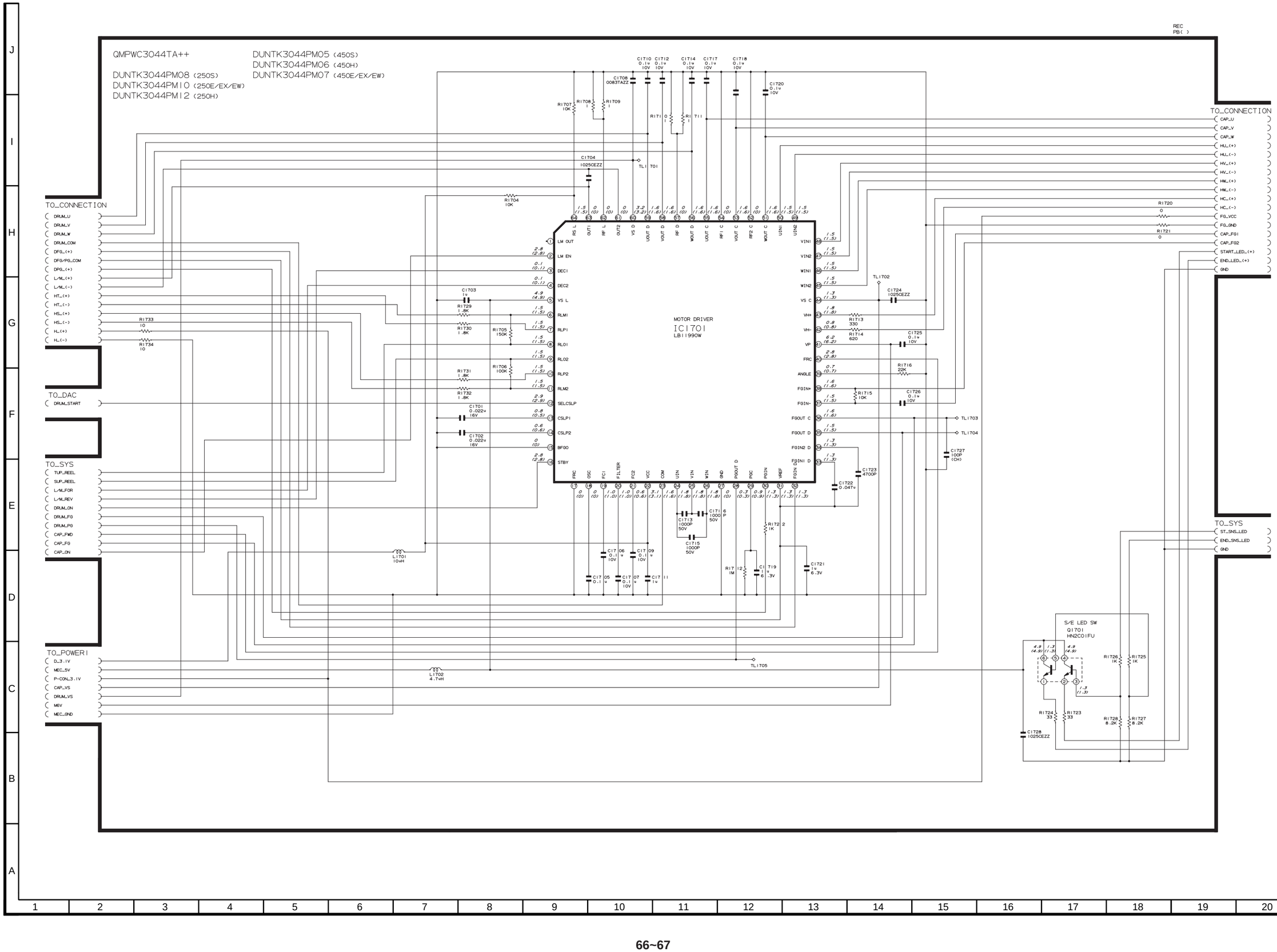
13-7. MEC/SYS_MICON SCHEMATIC DIAGRAM



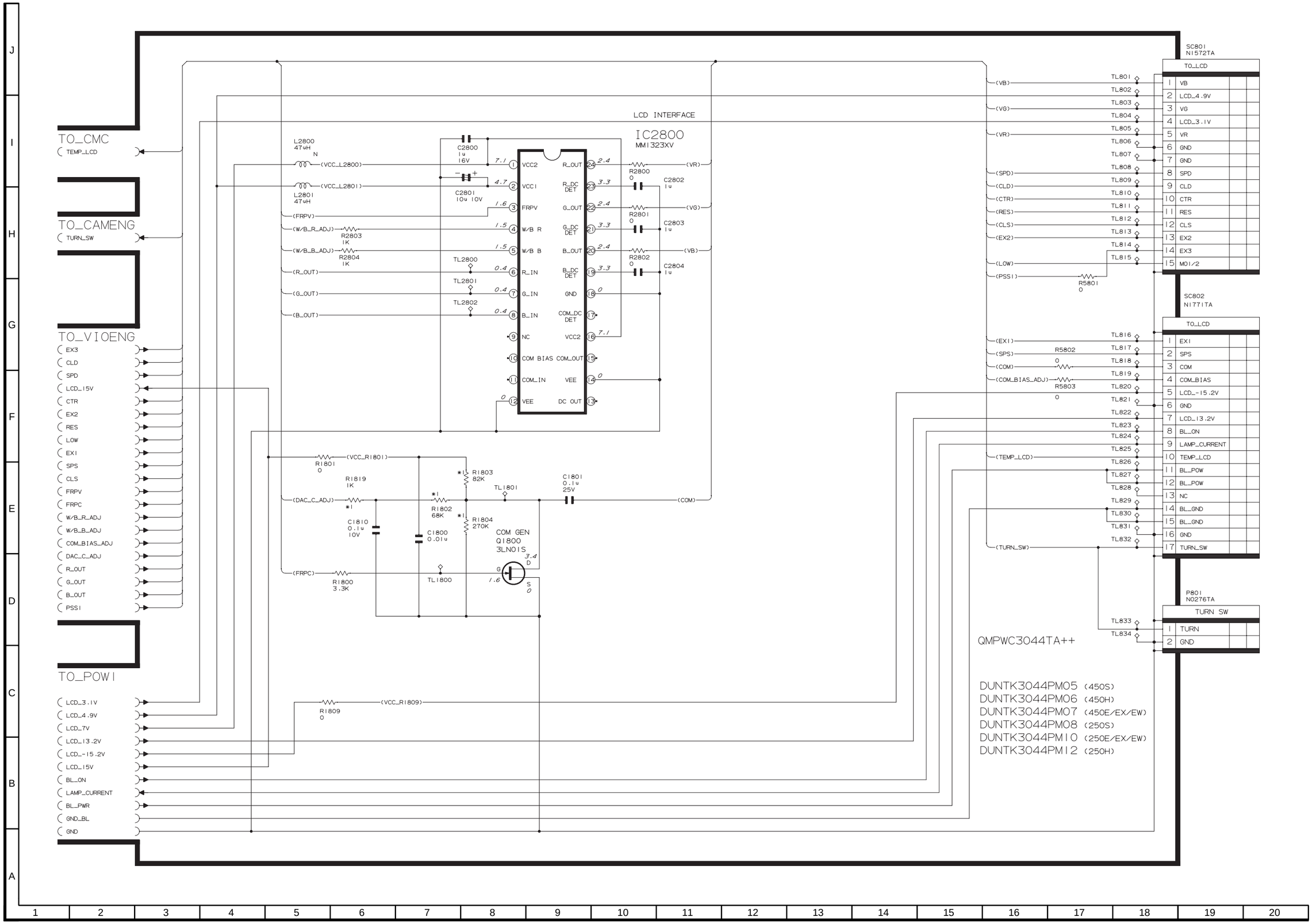
13-8. VIDEO I/O SCHEMATIC DIAGRAM



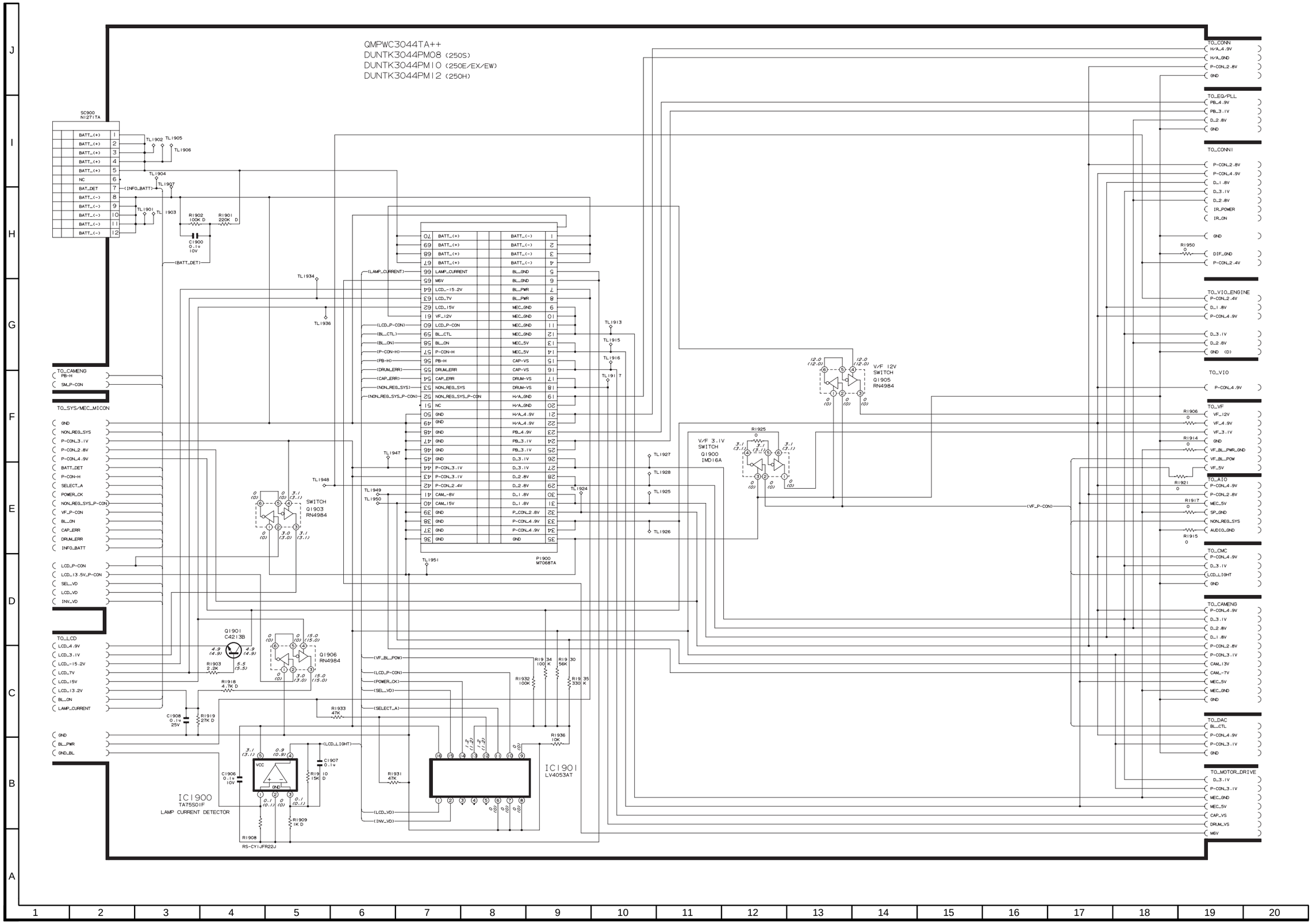
13-9. MOTOR DRIVER SCHEMATIC DIAGRAM



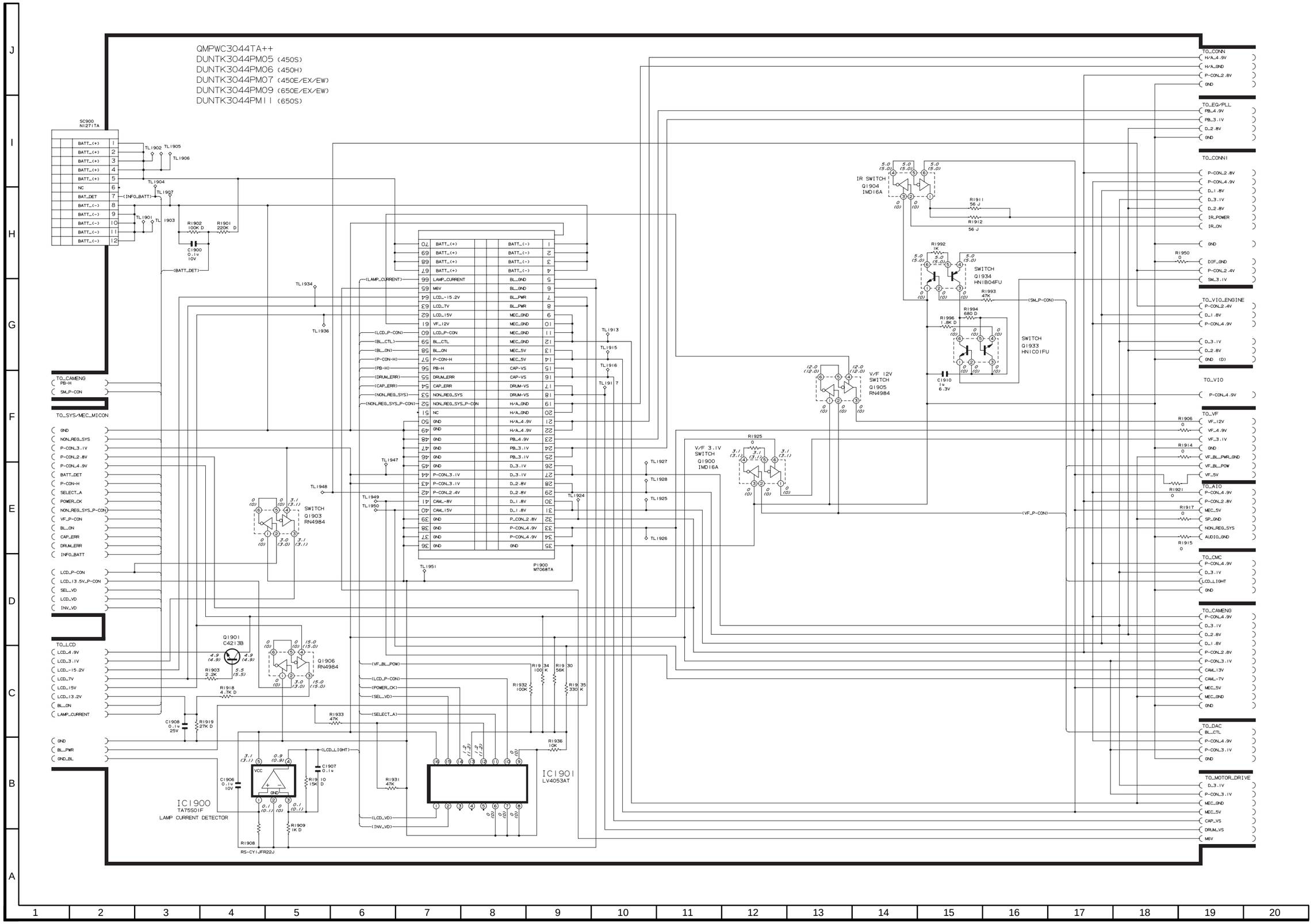
13-10. LCD_DISPLAY SCHEMATIC DIAGRAM



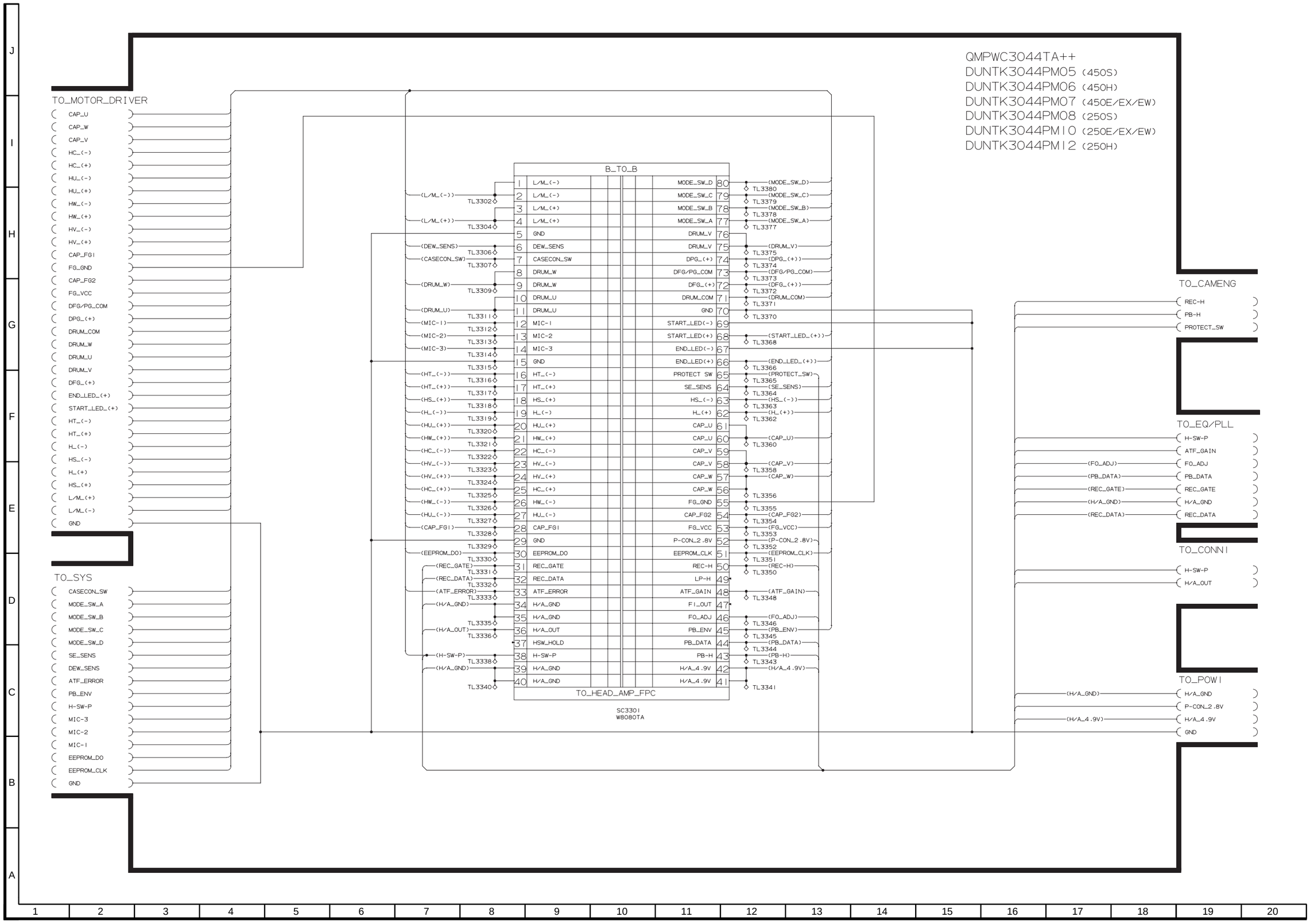
13-11. POWER1 SCHEMATIC DIAGRAM(VL-WD250S/H/E)



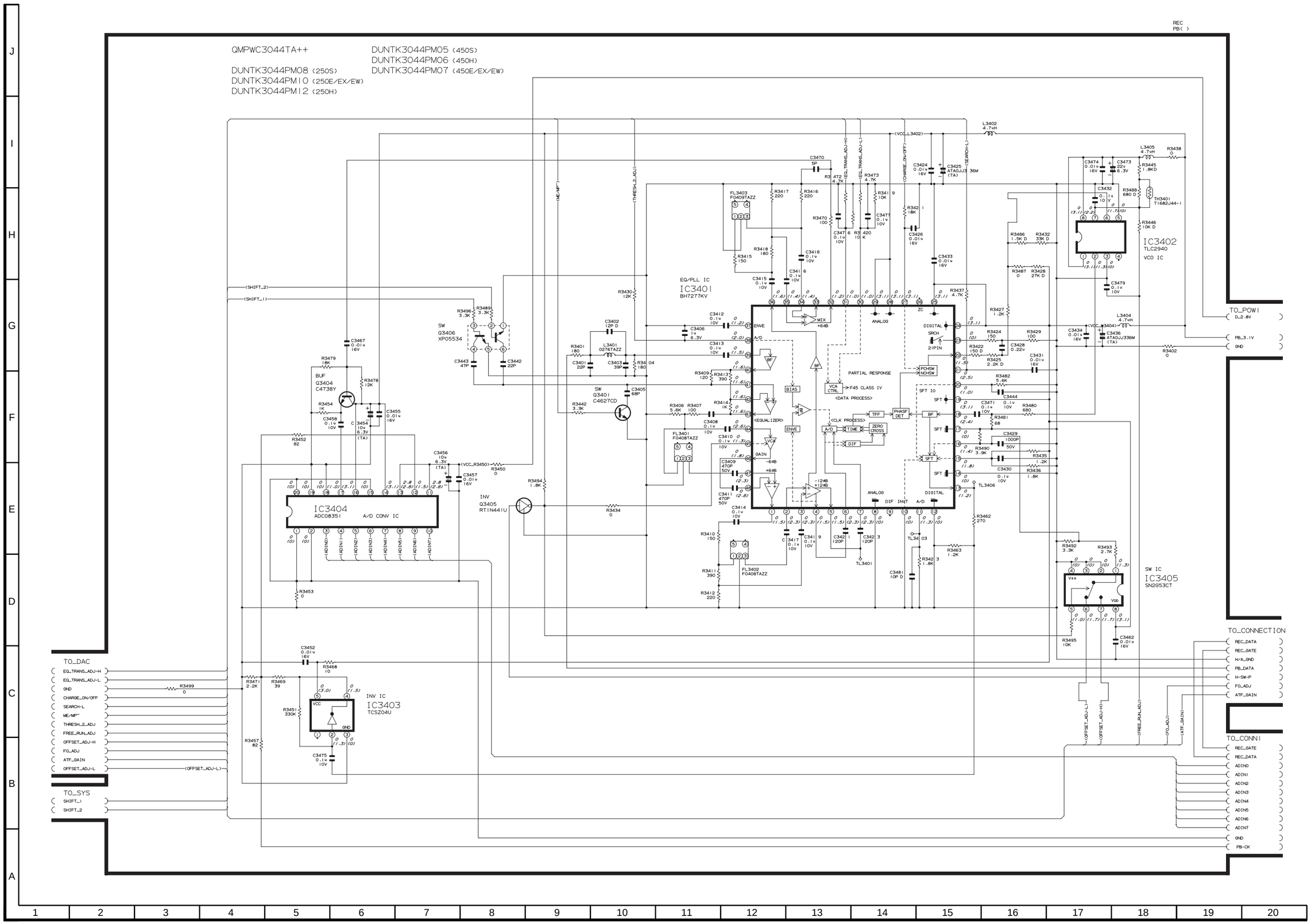
13-12. POWER1 SCHEMATIC DIAGRAM(VL-WD450S/H/E)



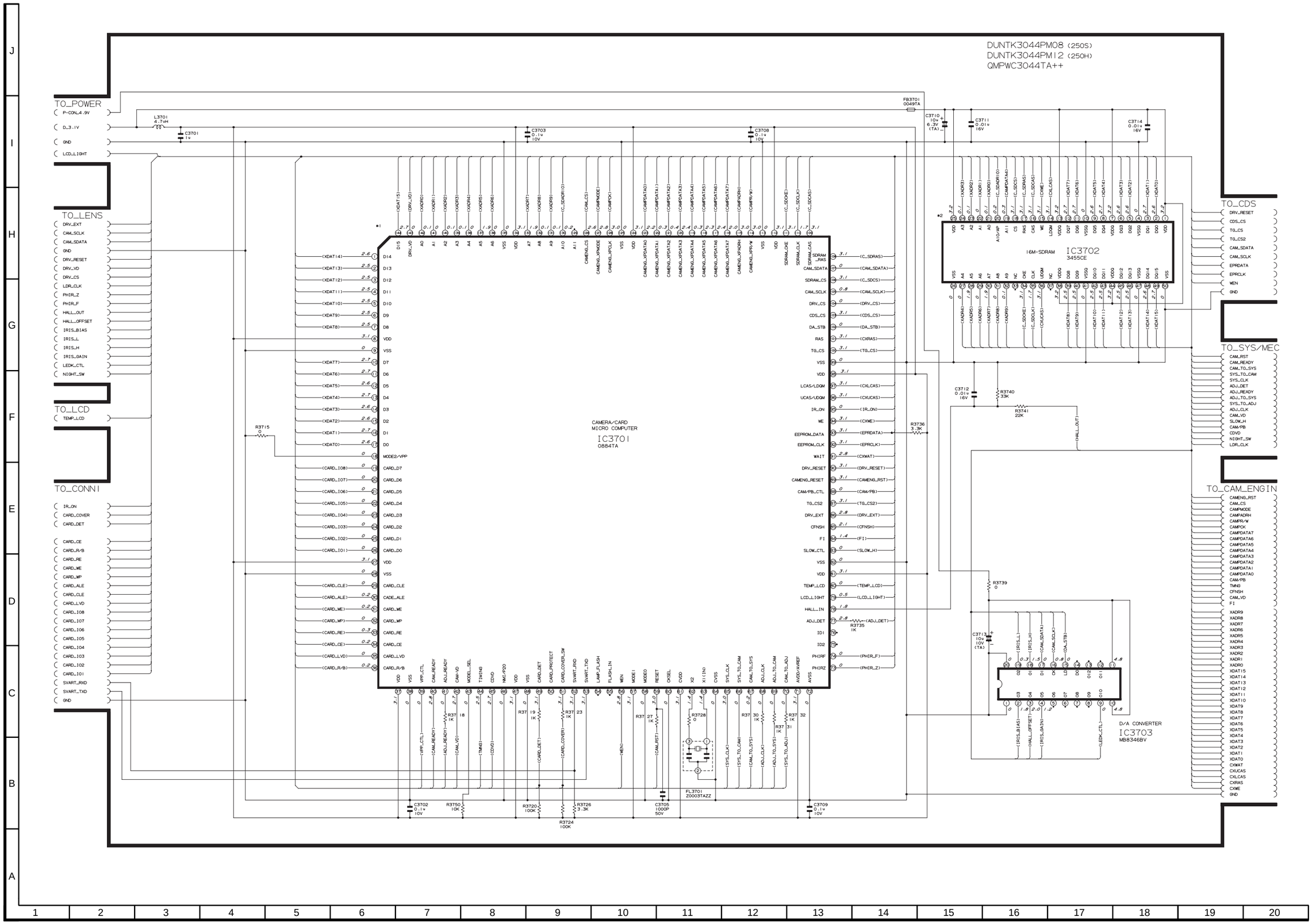
13-13. CONNECTION(B-B) SCHEMATIC DIAGRAM



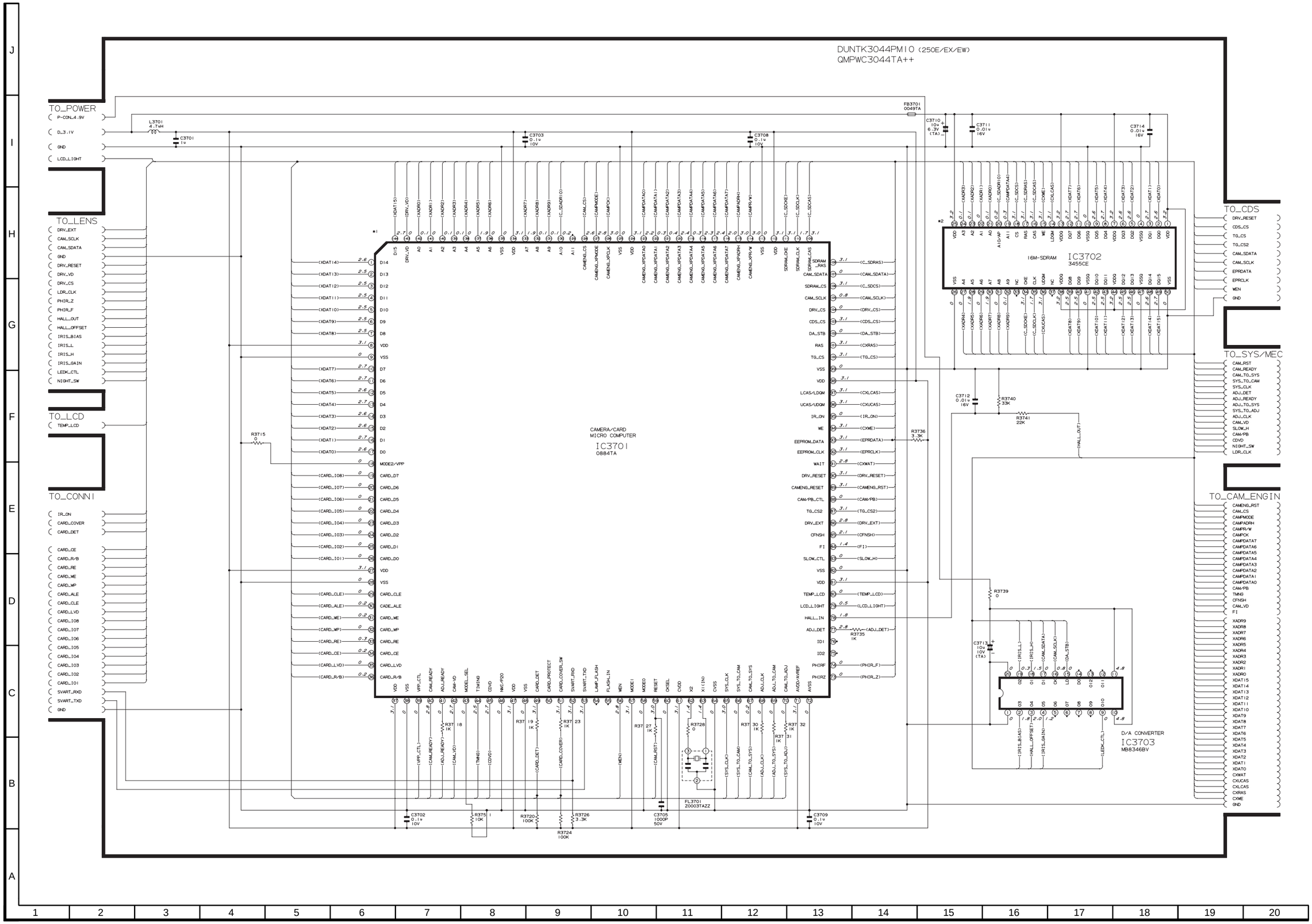
13-14. EQ/PLL SCHEMATIC DIAGRAM



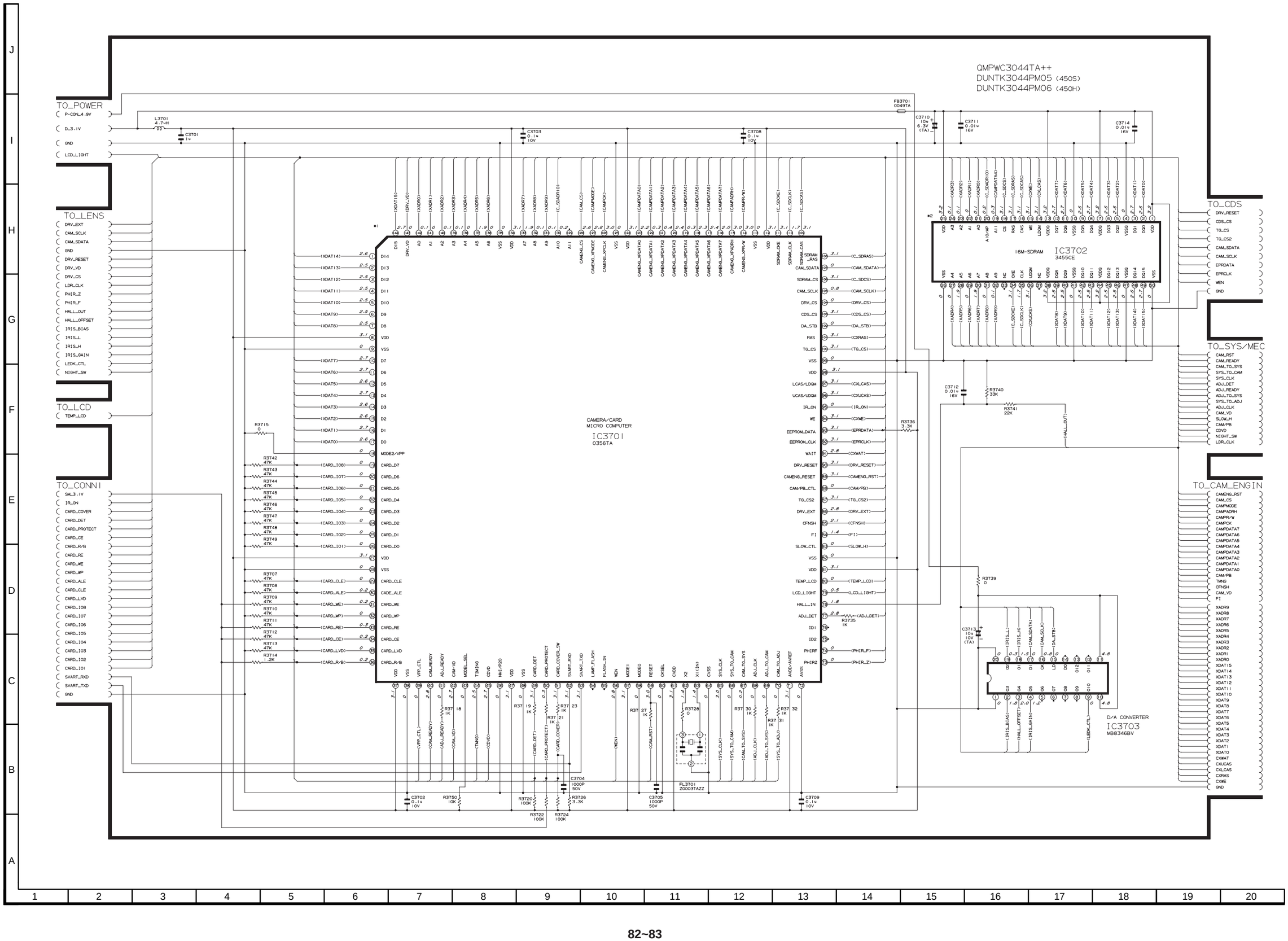
13-15. CAM/CARD MICON SCHEMATIC DIAGRAM(VL-WD250S/H)



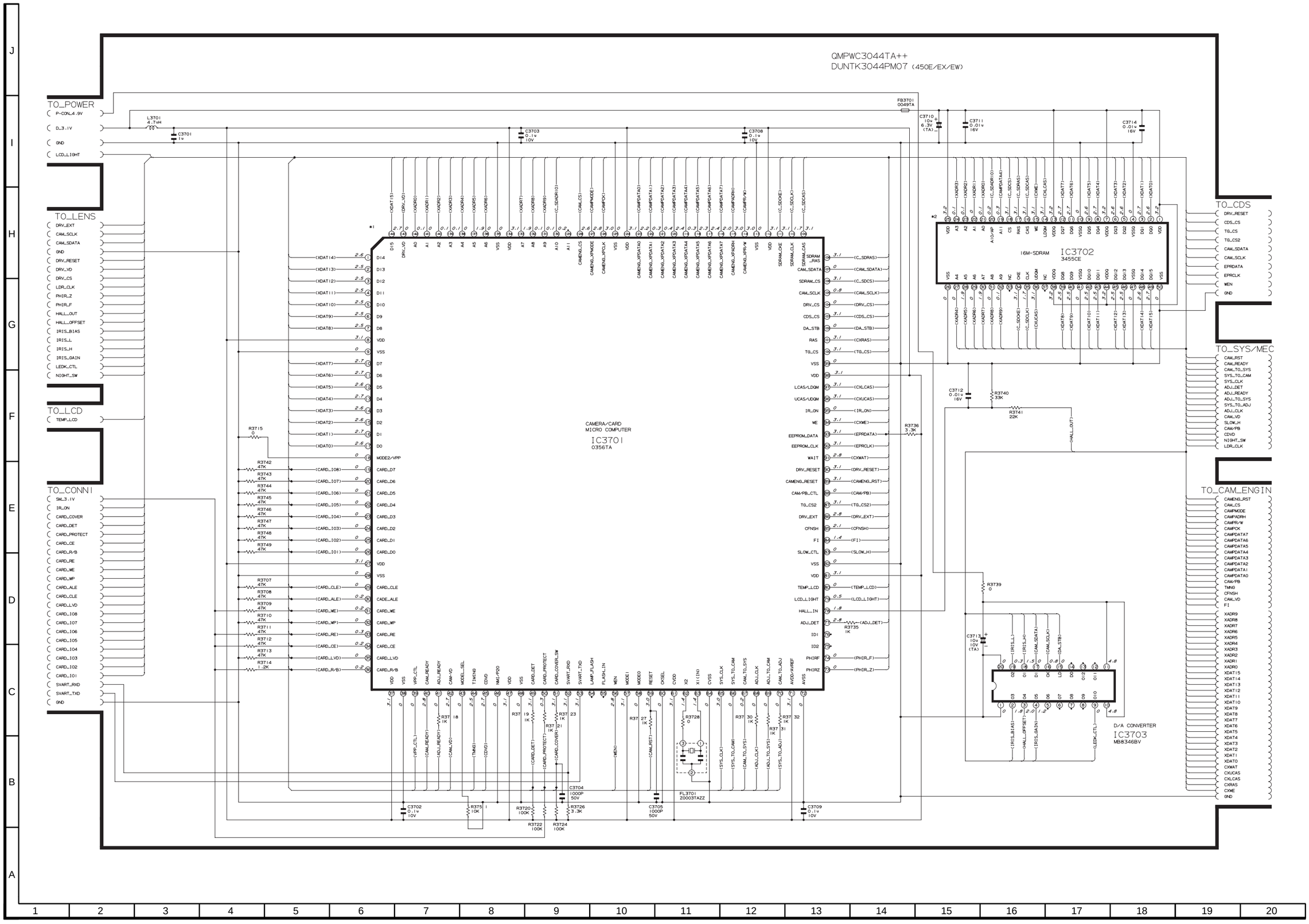
13-16. CAM/CARD MICON SCHEMATIC DIAGRAM(VL-WD250E)



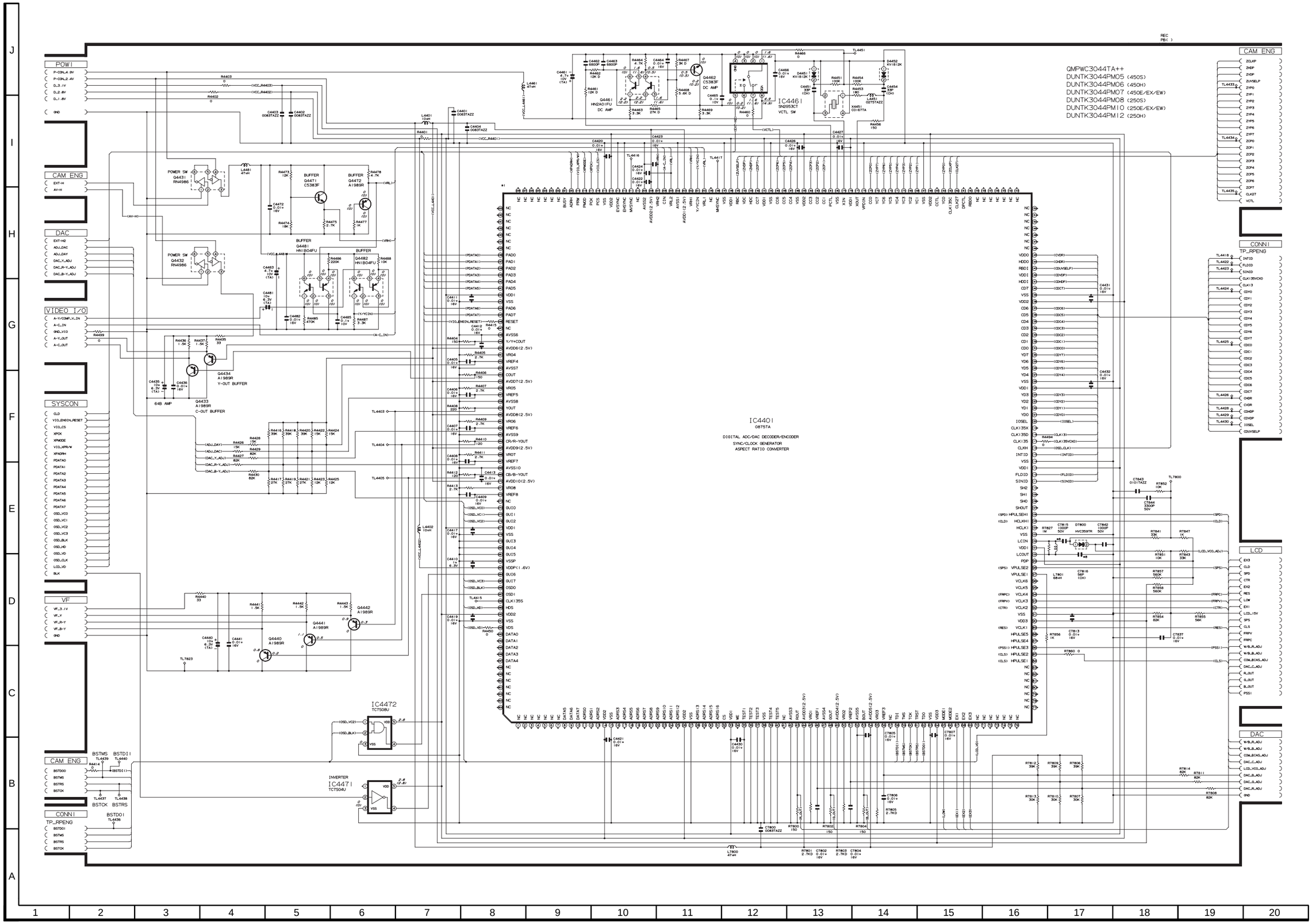
13-17. CAM/CARD MICON SCHEMATIC DIAGRAM(VL-WD450S/H)



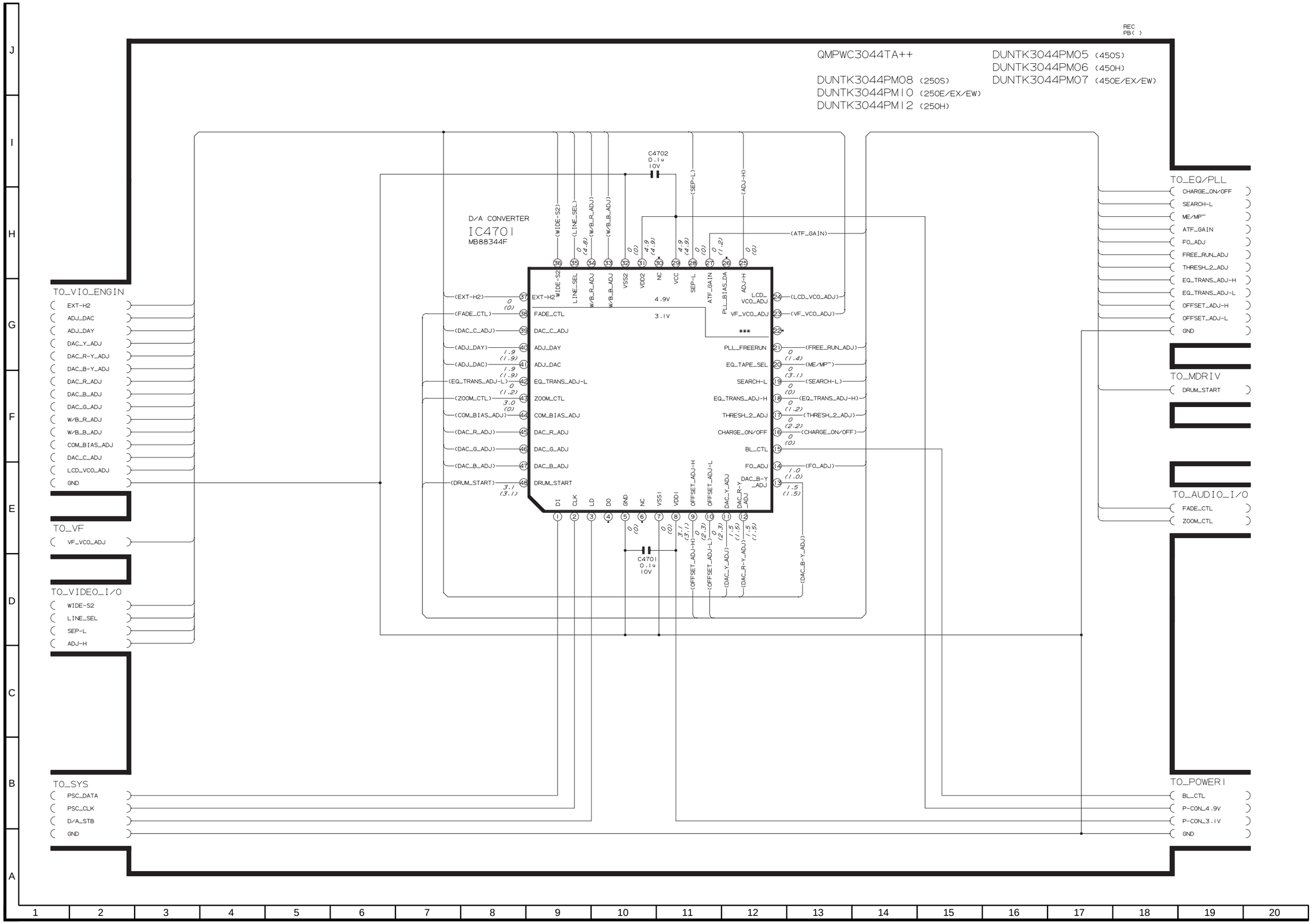
13-18. CAM/CARD MICON SCHEMATIC DIAGRAM(VL-WD450E)



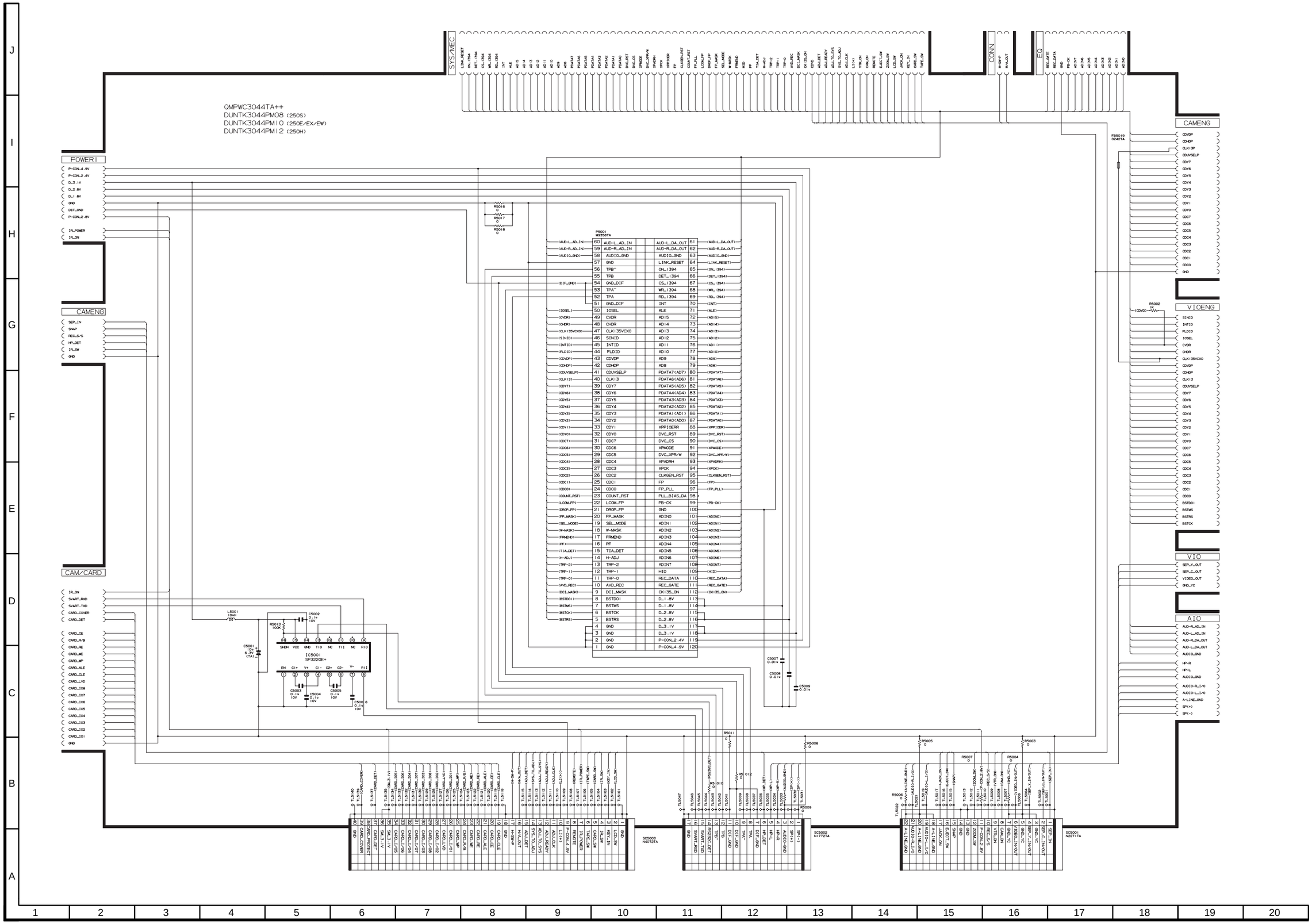
13-19. VIO ENGINE SCHEMATIC DIAGRAM



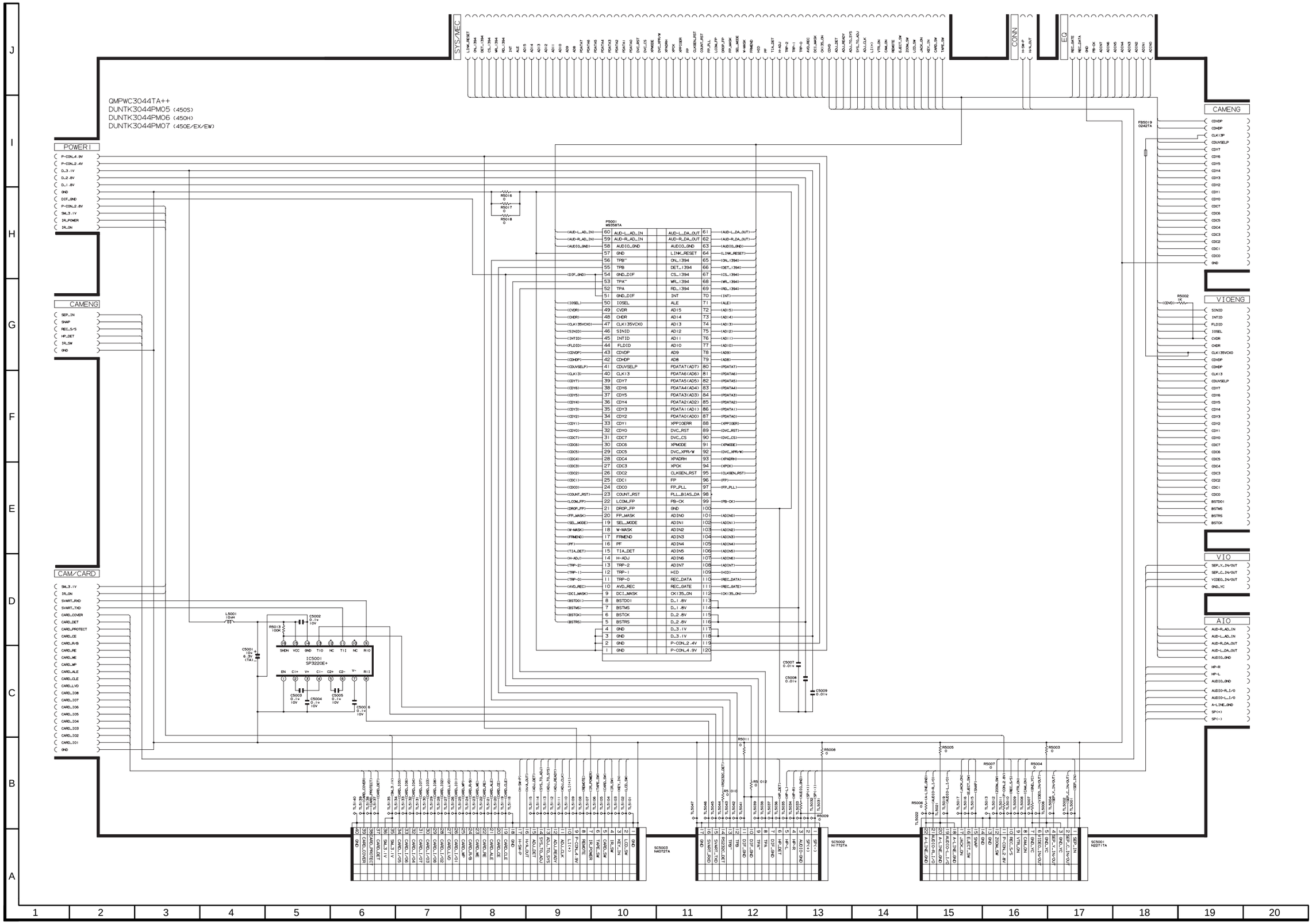
13-20. DAC SCHEMATIC DIAGRAM



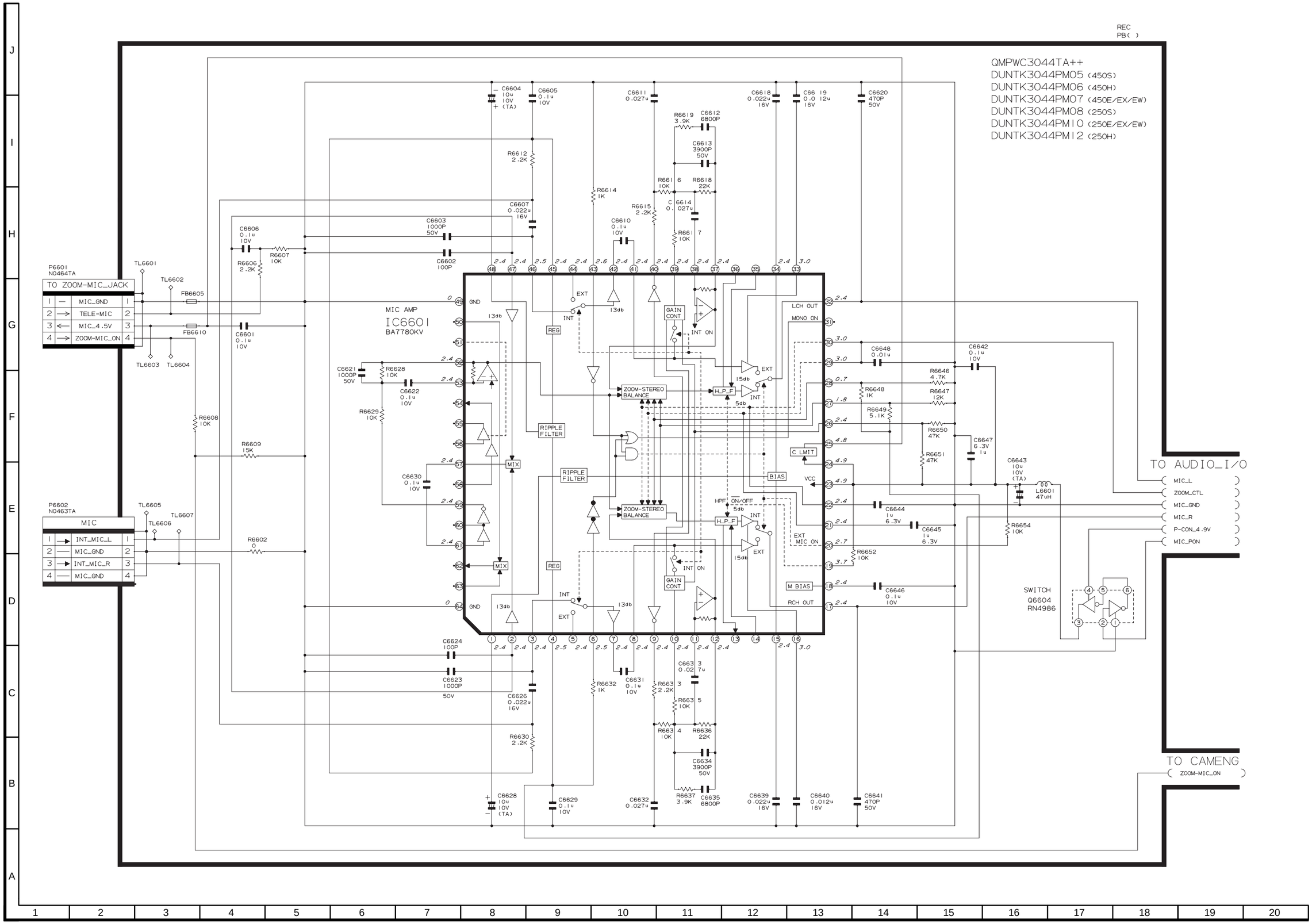
13-21. CONN1 SCHEMATIC DIAGRAM(VL-WD250S/H/E)



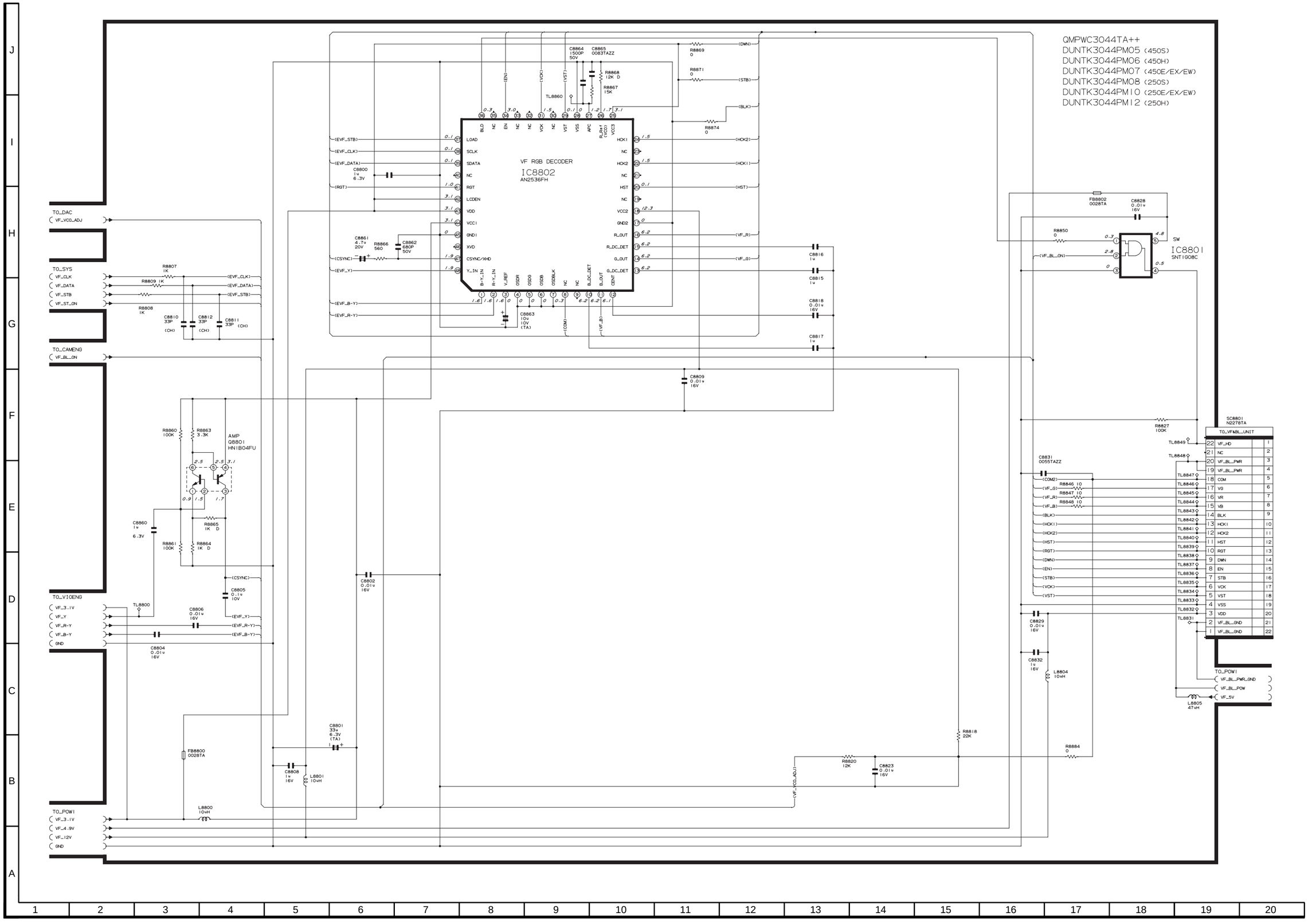
13-22. CONN1 SCHEMATIC DIAGRAM(VL-WD450S/H/E)



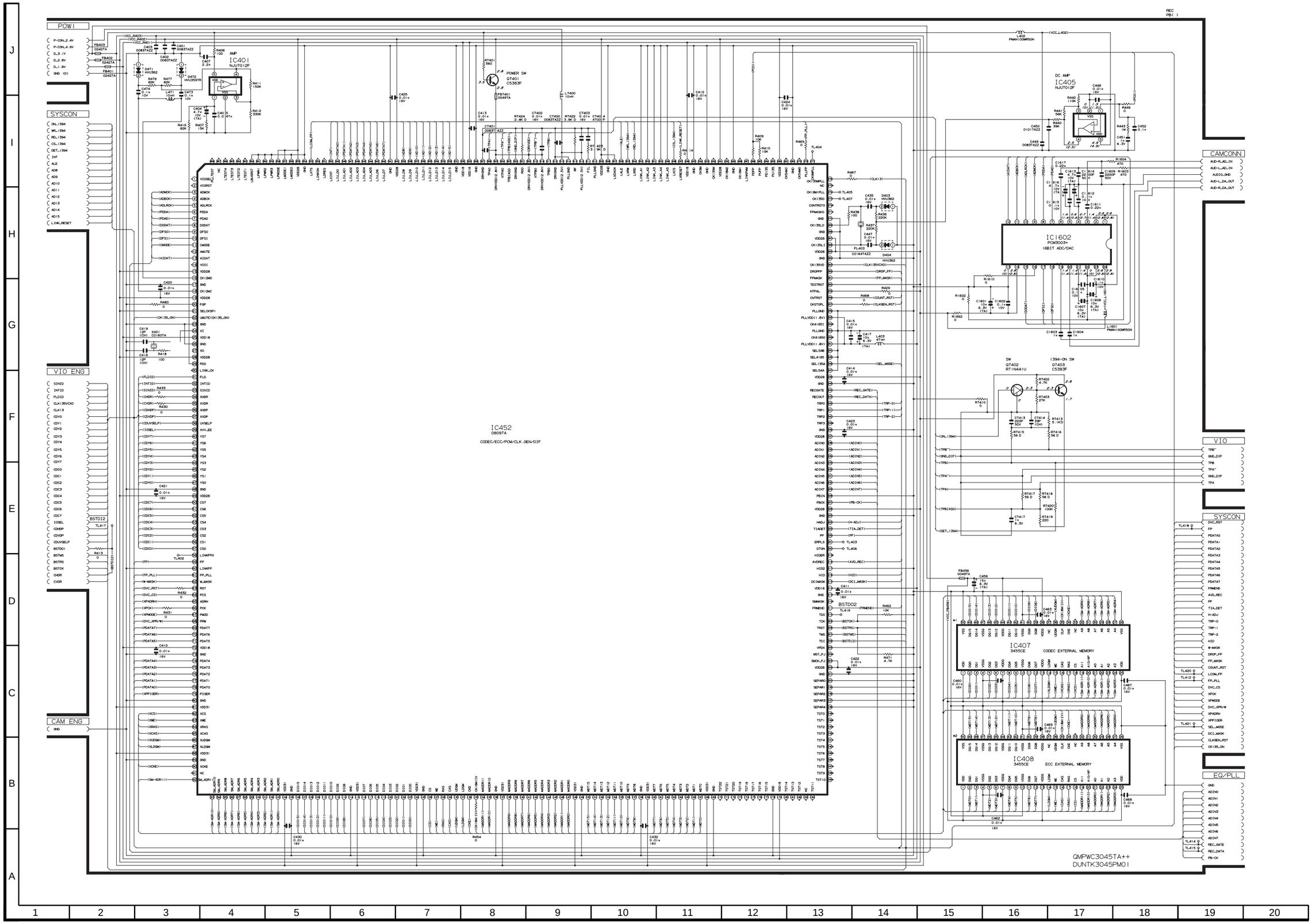
13-23. MIC AMP SCHEMATIC DIAGRAM



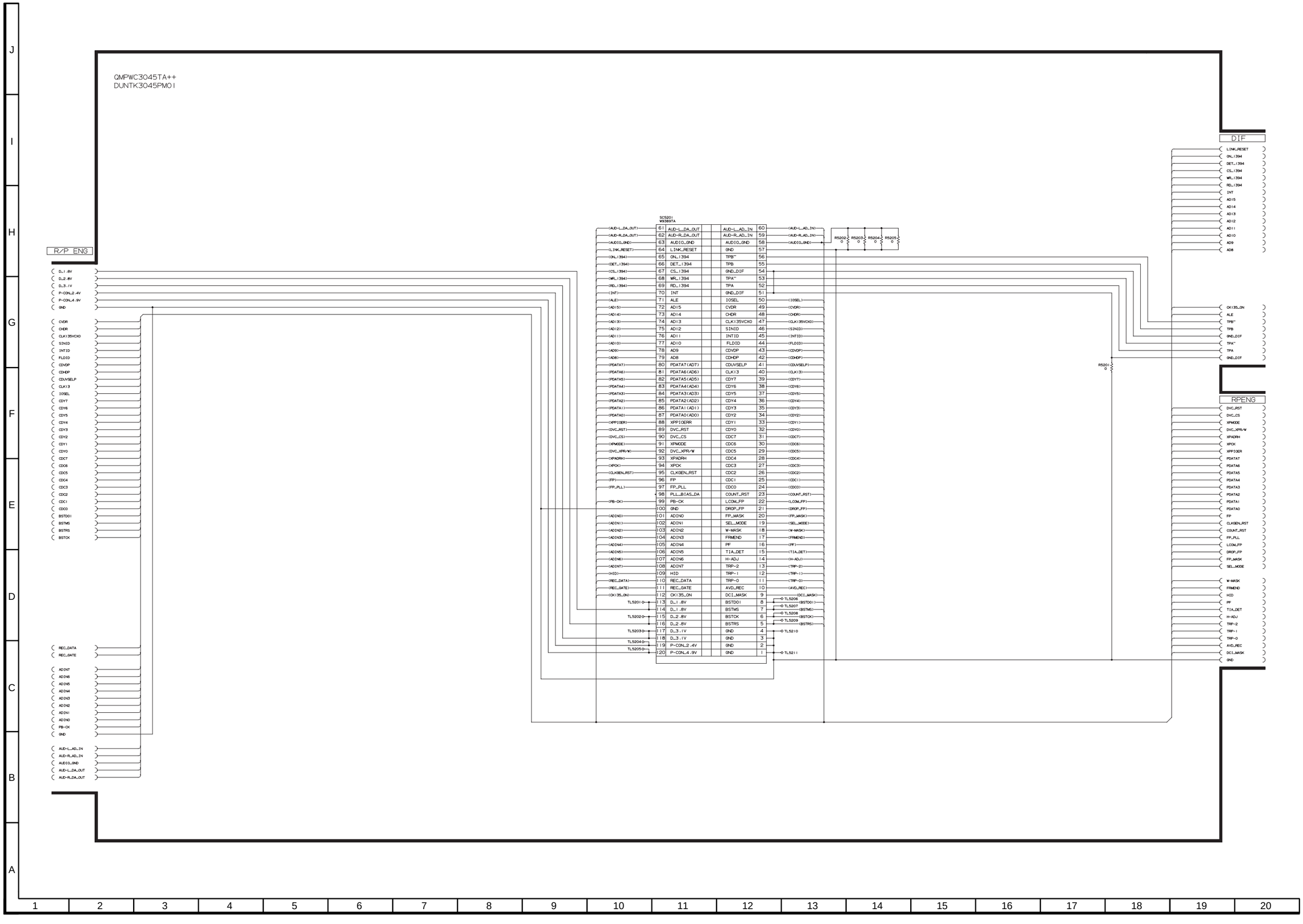
13-24. VF SCHEMATIC DIAGRAM



13-25. REC/PB ENGINE SCHEMATIC DIAGRAM

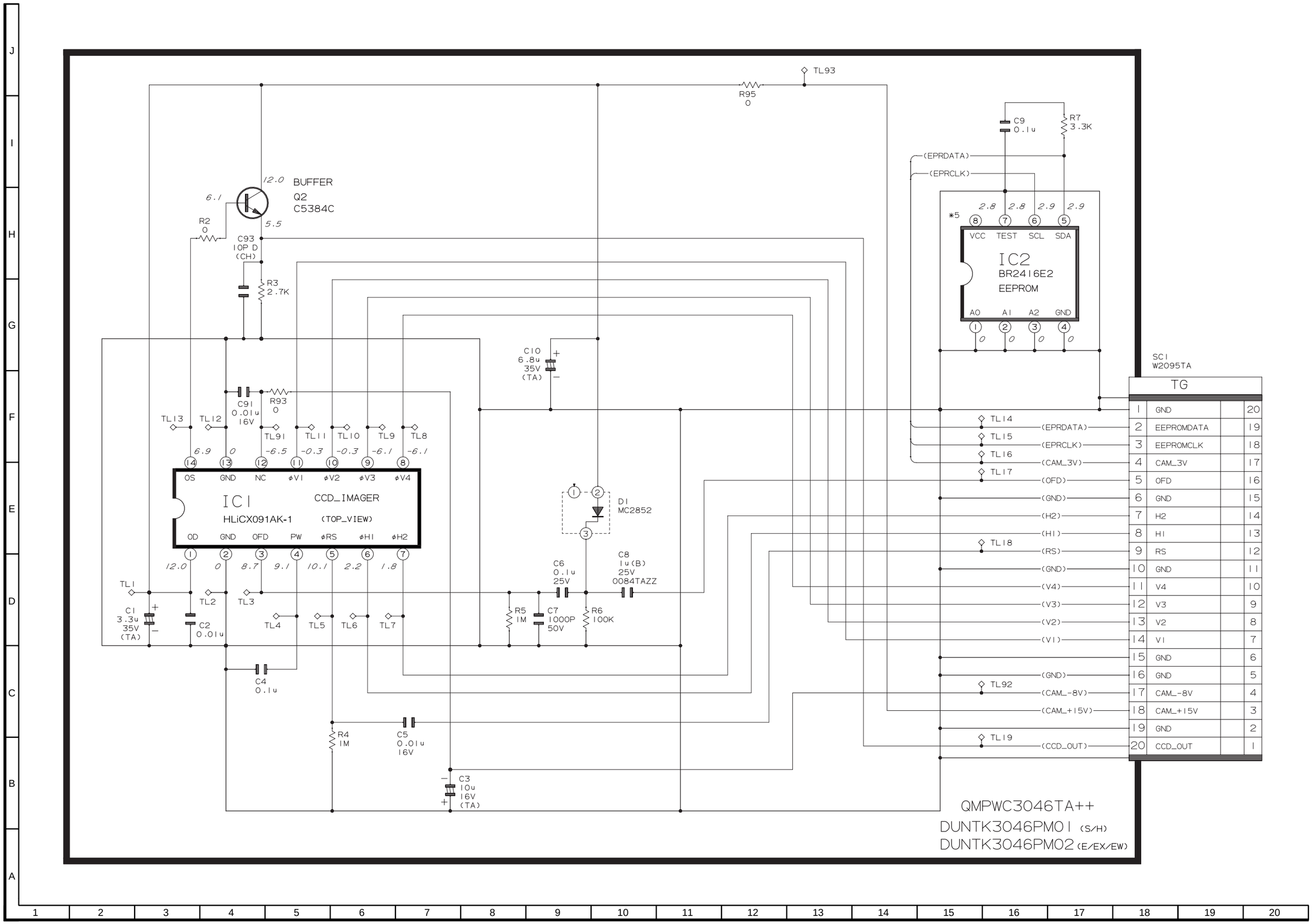


13-26. CONN2 SCHEMATIC DIAGRAM



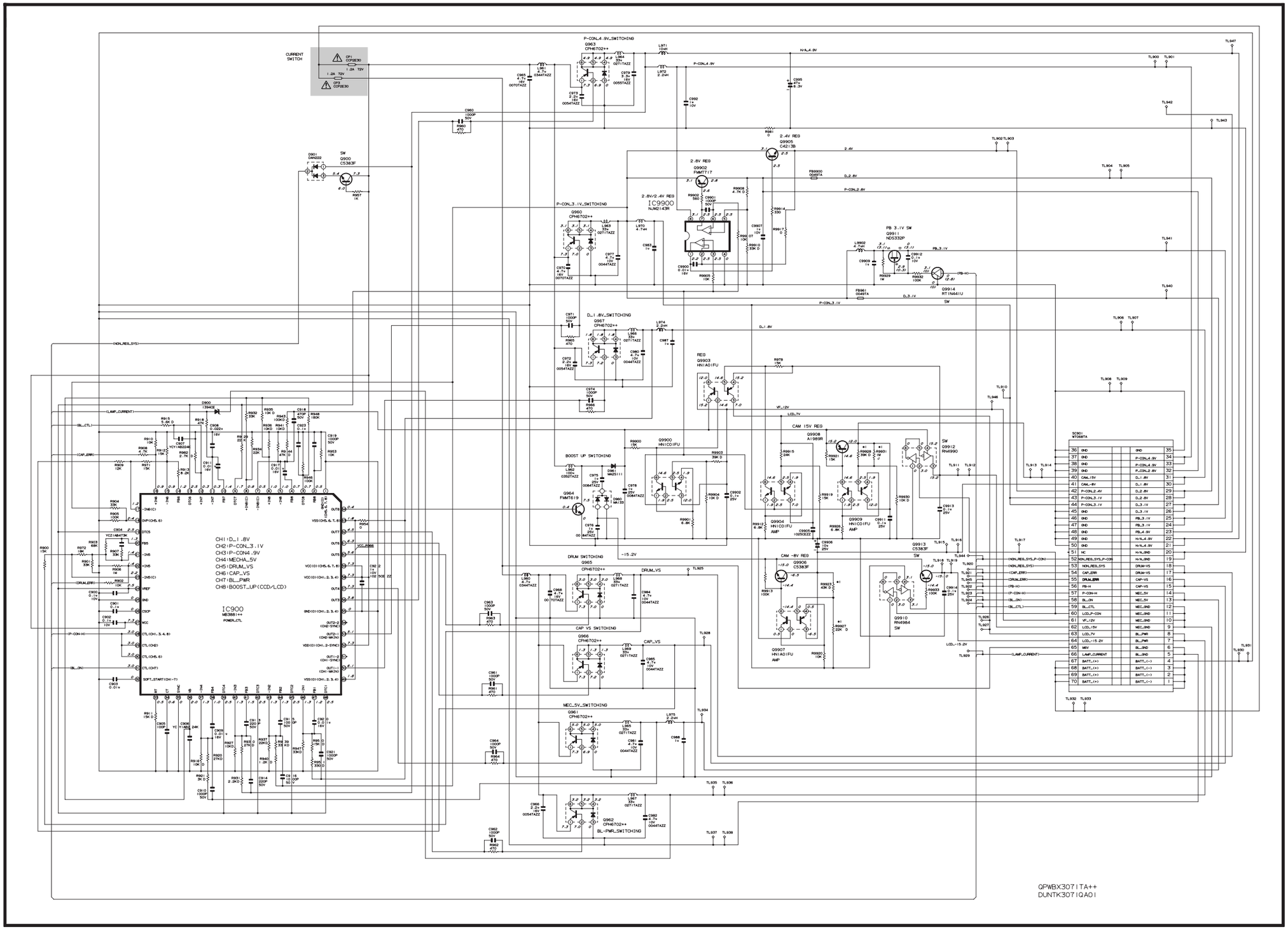
61	AUD-L_DA_OUT		AUD-L_AD_IN	60	AUD-L_AD_IN		
62	AUD-R_DA_OUT		AUD-R_AD_IN	59	AUD-R_AD_IN		
63	AUDIO_GND		AUDIO_GND	58	AUDIO_GND		
64	LINK_RESET		GND	57			
65	ON_1394		TPB*	56			
66	DET_1394		TPB	55			
67	CS_1394		GND_DIF	54			
68	WR_1394		TPA*	53			
69	RD_1394		TPA	52			
70	INT		GND_DIF	51			
71	ALE		IOSEL	50	IOSEL		
72	AD15		CVDR	49	CVDR		
73	AD14		CHDR	48	CHDR		
74	AD13		CLK135VCXO	47	CLK135VCXO		
75	AD12		SINID	46	SINID		
76	AD11		INTID	45	INTID		
77	AD10		FLDID	44	FLDID		
78	AD9		CDVDP	43	CDVDP		
79	AD8		CDHDP	42	CDHDP		
80	PDATA7(AD7)		CDUVSELP	41	CDUVSELP		
81	PDATA6(AD6)		CLKI3	40	CLKI3		
82	PDATA5(AD5)		CDY7	39	CDY7		
83	PDATA4(AD4)		CDY6	38	CDY6		
84	PDATA3(AD3)		CDY5	37	CDY5		
85	PDATA2(AD2)		CDY4	36	CDY4		
86	PDATA1(AD1)		CDY3	35	CDY3		
87	PDATA0(AD0)		CDY2	34	CDY2		
88	XPP1OERR		CDY1	33	CDY1		
89	DVC_RST		CDY0	32	CDY0		
90	DVC_CS		CDC7	31	CDC7		
91	XPMODE		CDC6	30	CDC6		
92	DVC_XPR/W		CDC5	29	CDC5		
93	XPADRH		CDC4	28	CDC4		
94	XPCK		CDC3	27	CDC3		
95	CLKGEN_RST		CDC2	26	CDC2		
96	FP		CDC1	25	CDC1		
97	FP_PLL		CDC0	24	CDC0		
98	PLL_BIAS_DA		COUNT_RST	23	COUNT_RST		
99	PB-CK		LCOM_FP	22	LCOM_FP		
100	GND		DROP_FP	21	DROP_FP		
101	ADIN0		FP_MASK	20	FP_MASK		
102	ADIN1		SEL_MODE	19	SEL_MODE		
103	ADIN2		W-MASK	18	W-MASK		
104	ADIN3		FRMEND	17	FRMEND		
105	ADIN4		PF	16	PF		
106	ADIN5		TIA_DET	15	TIA_DET		
107	ADIN6		H-ADJ	14	H-ADJ		
108	ADIN7		TRP-2	13	TRP-2		
109	HID		TRP-1	12	TRP-1		
110	REC_DATA		TRP-0	11	TRP-0		
111	REC_GATE		AVD_REC	10	AVD_REC		
112	CK135_ON		DCI_MASK	9	DCI_MASK	TL5206	
113	D_1.8V		BSTD01	8	BSTD01	TL5207	
114	D_1.8V		BSTM5	7	BSTM5	TL5208	
115	D_2.8V		BSTCK	6	BSTCK	TL5209	
116	D_2.8V		BSTR5	5	BSTR5	TL5210	
117	D_3.1V		GND	4			
118	D_3.1V		GND	3			
119	P-CON_2.4V		GND	2			
120	P-CON_4.9V		GND	1		TL5211	

13-27. CCD SCHEMATIC DIAGRAM



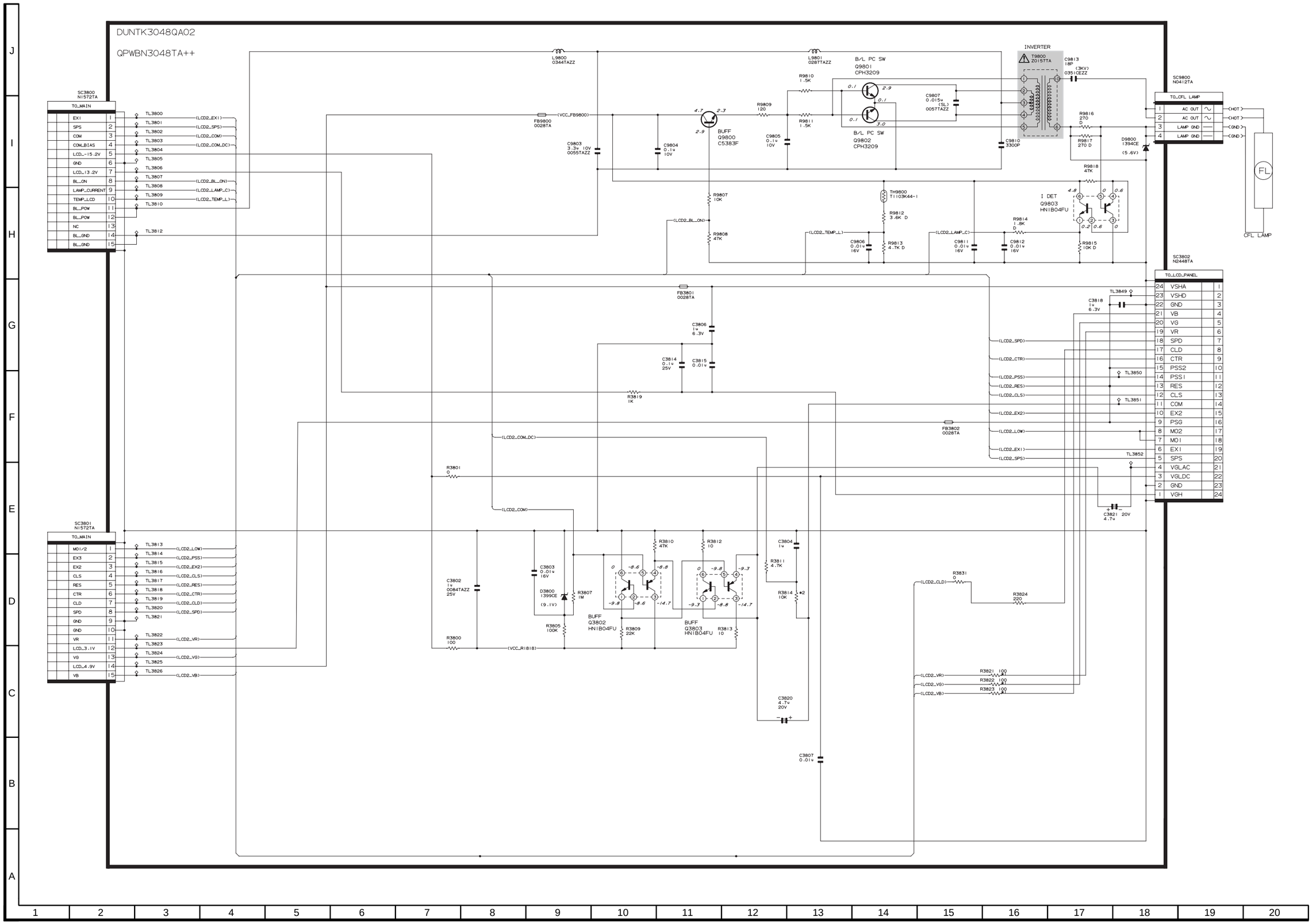
13-28. POWER SCHEMATIC DIAGRAM

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

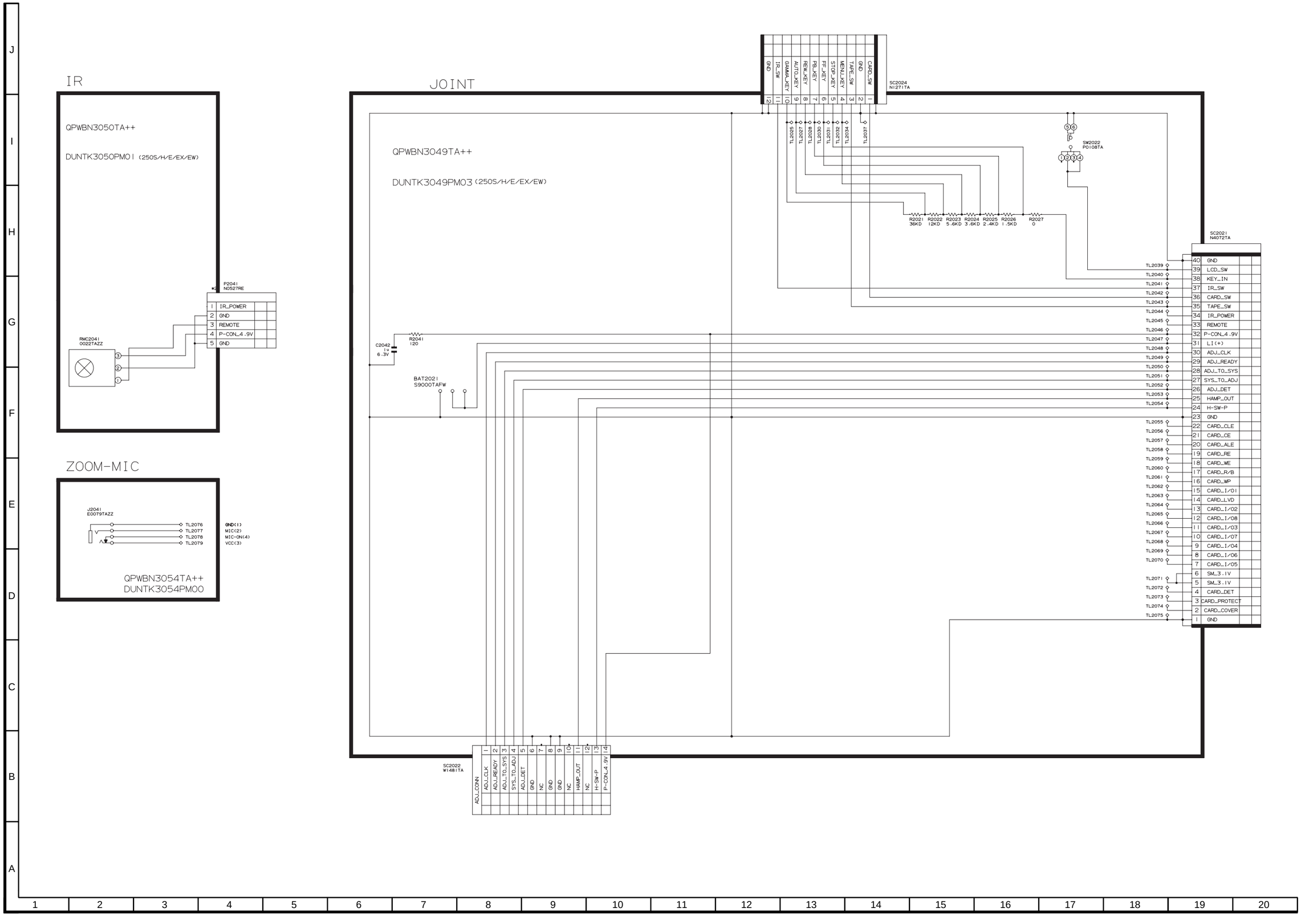


13-29. LCD DISPLAY2 SCHEMATIC DIAGRAM

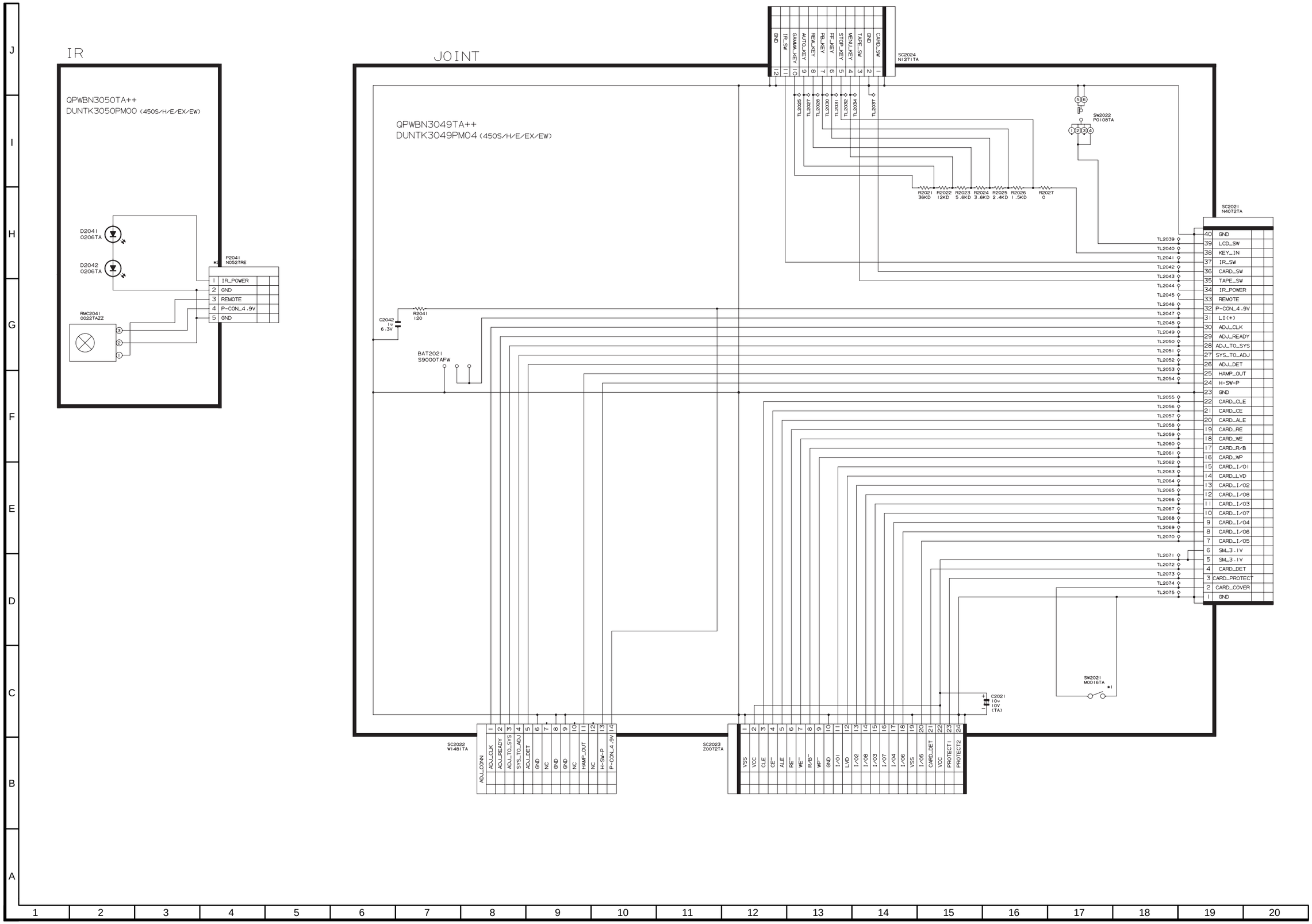
⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS



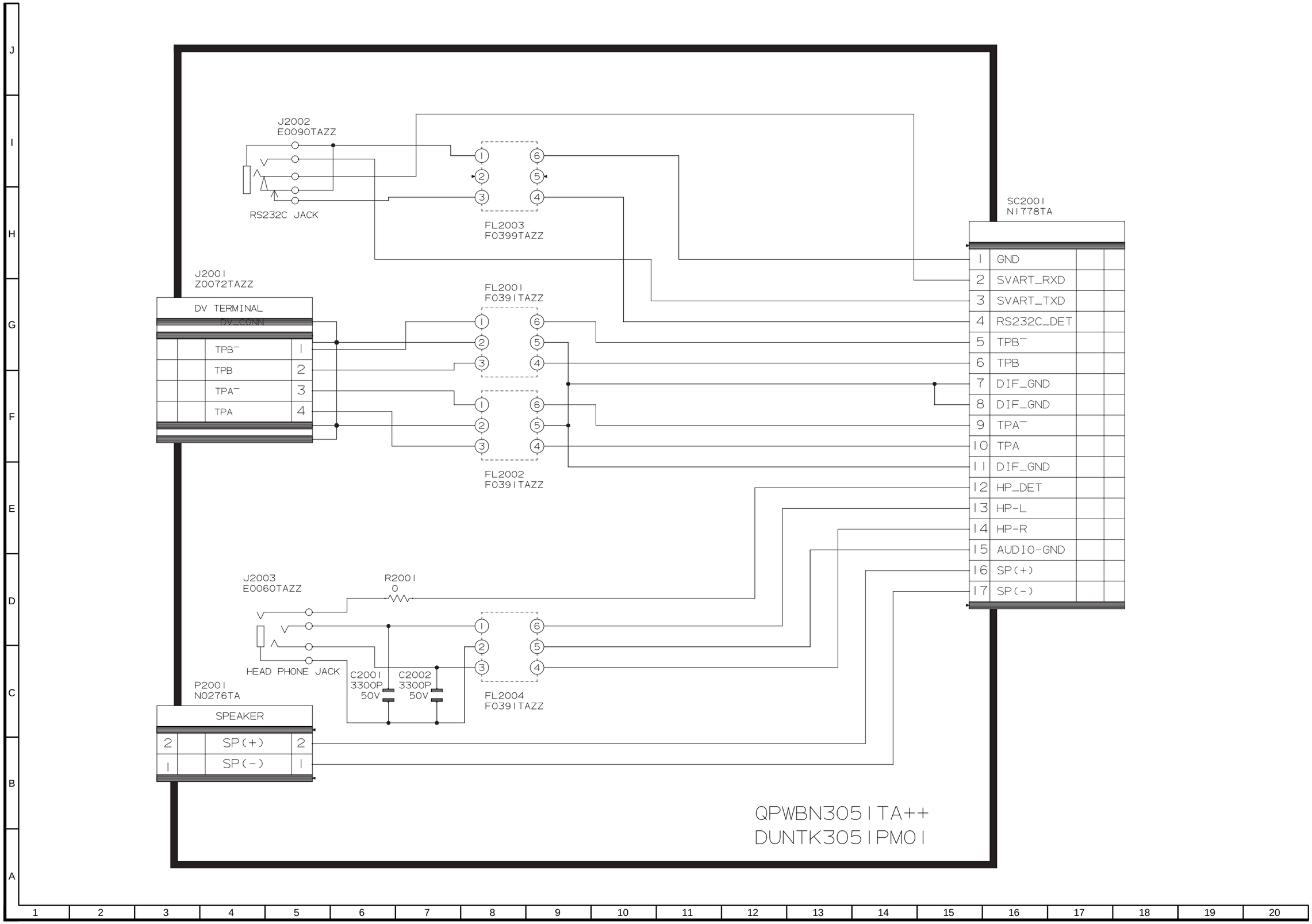
13-30. ZOOM-MIC SCHEMATIC DIAGRAM, IR/JOINT SCHEMATIC DIAGRAM(VL-WD250S/H/E)



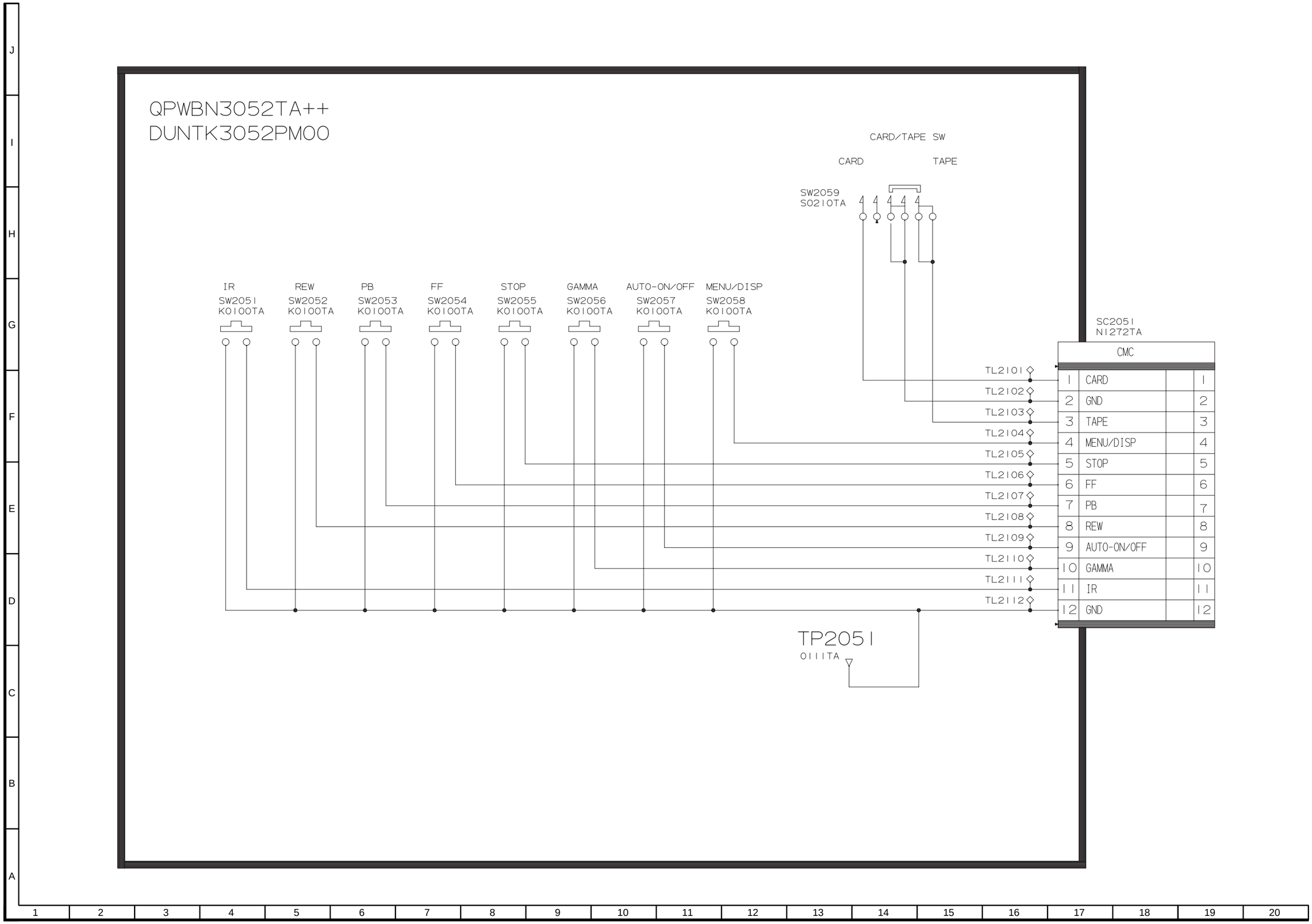
13-31. IR/JOINT SCHEMATIC DIAGRAM(VL-WD450S/H/E)



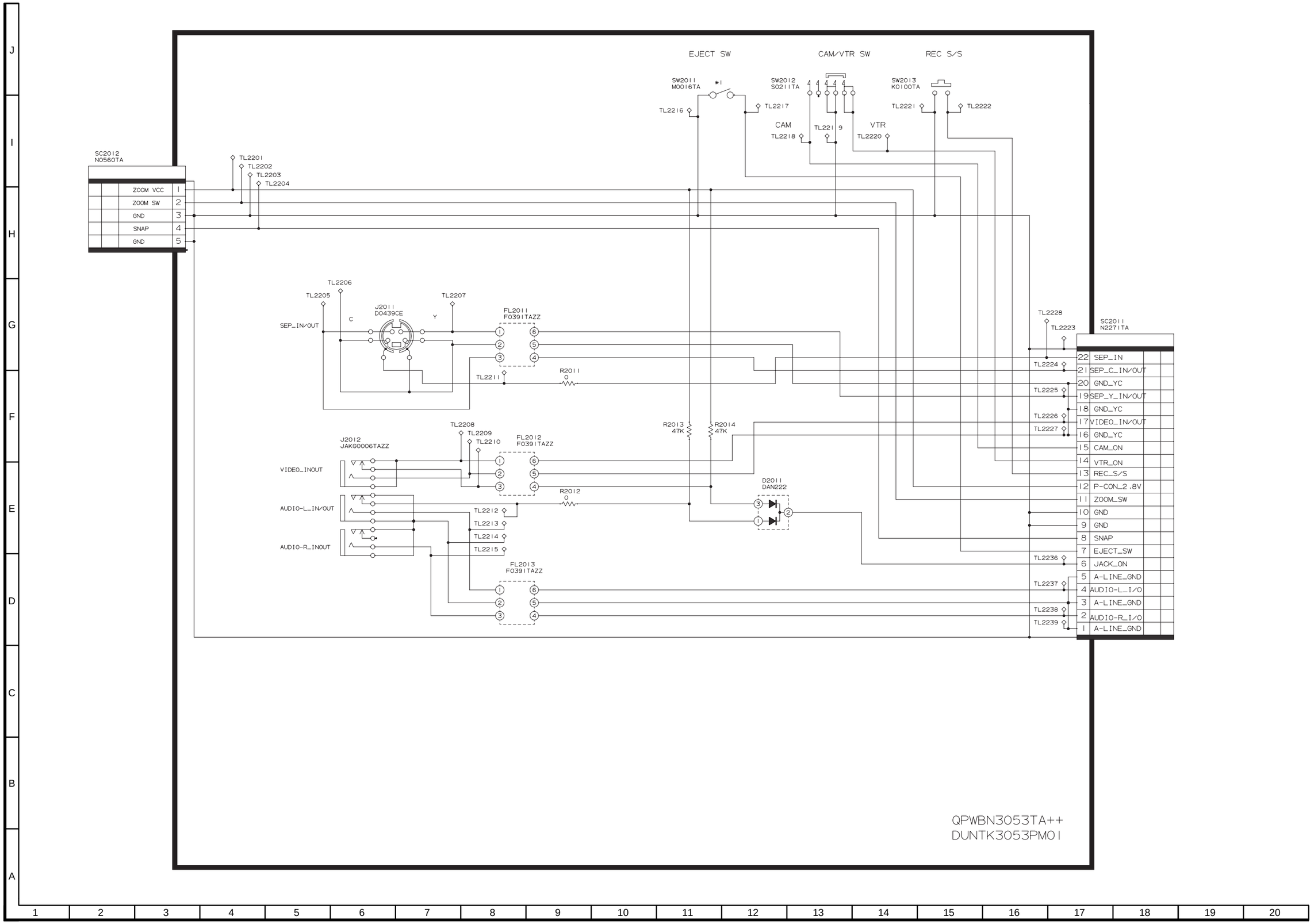
13-32. DV 232C HP SCHEMATIC DIAGRAM



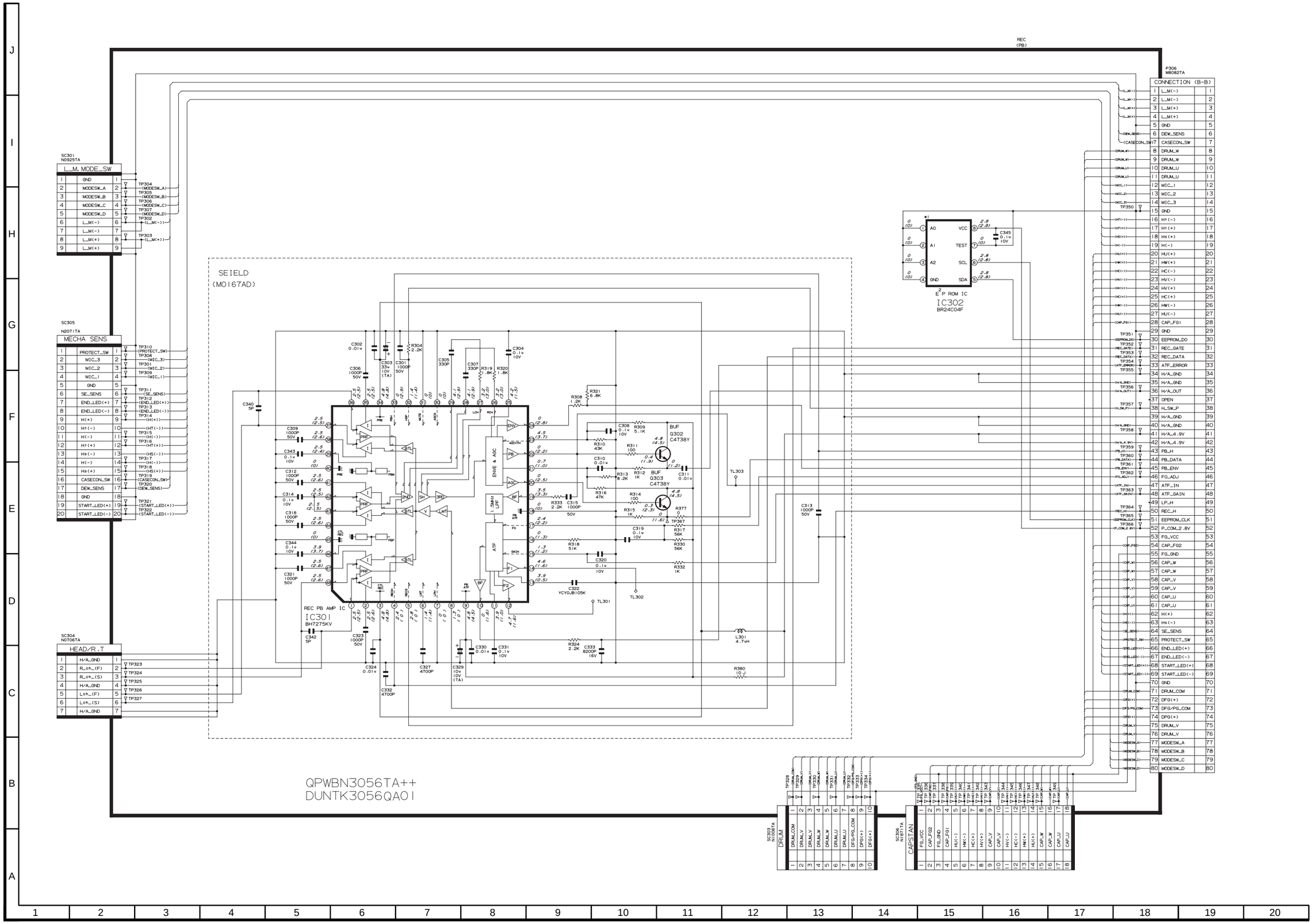
13-33. VCR OPERATION SCHEMATIC DIAGRAM



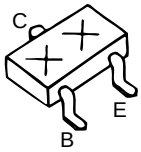
13-34. AVS DC JACK SCHEMATIC DIAGRAM



13-35. HEAD AMP SCHEMATIC DIAGRAM



14. SEMICONDUCTOR LEAD IDENTIFICATION



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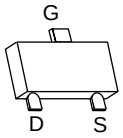

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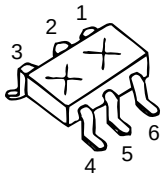

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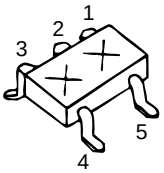

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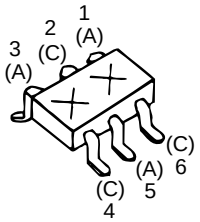

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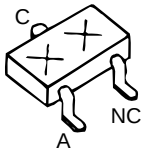

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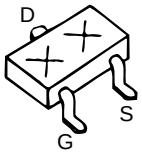

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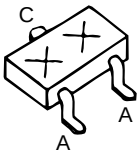

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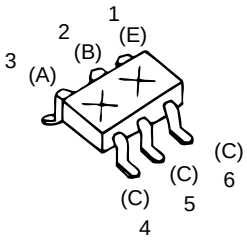

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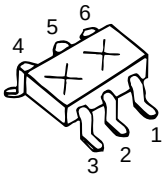

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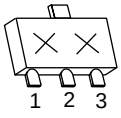

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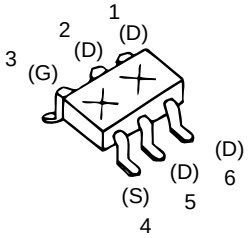

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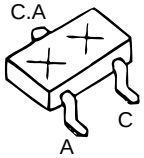

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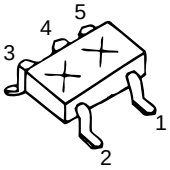

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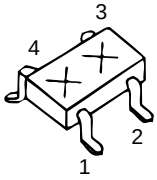

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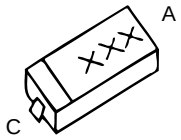

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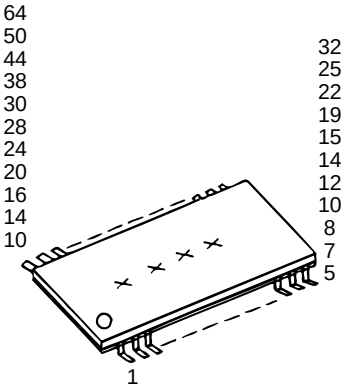

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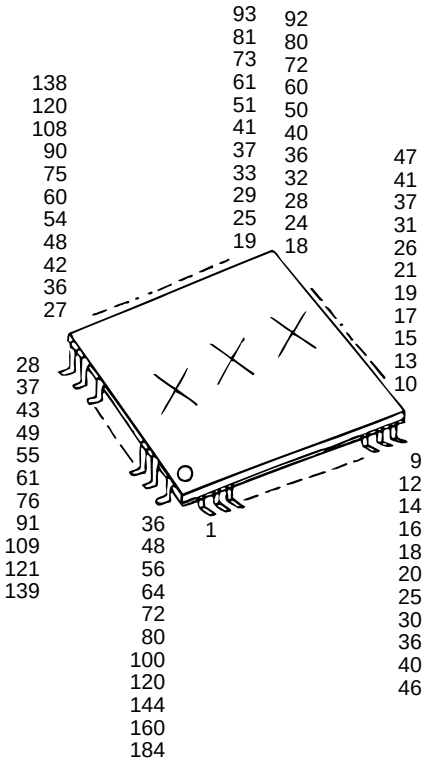

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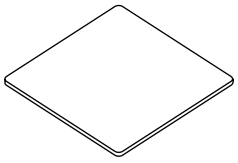

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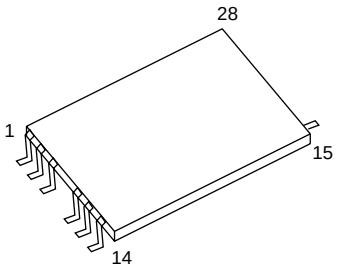
IX0809TA
IX0707TA
IX0853TA



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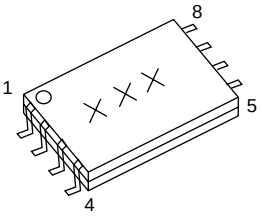

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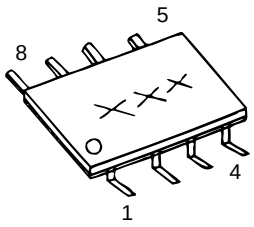

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TC7W74U
TC7W08U
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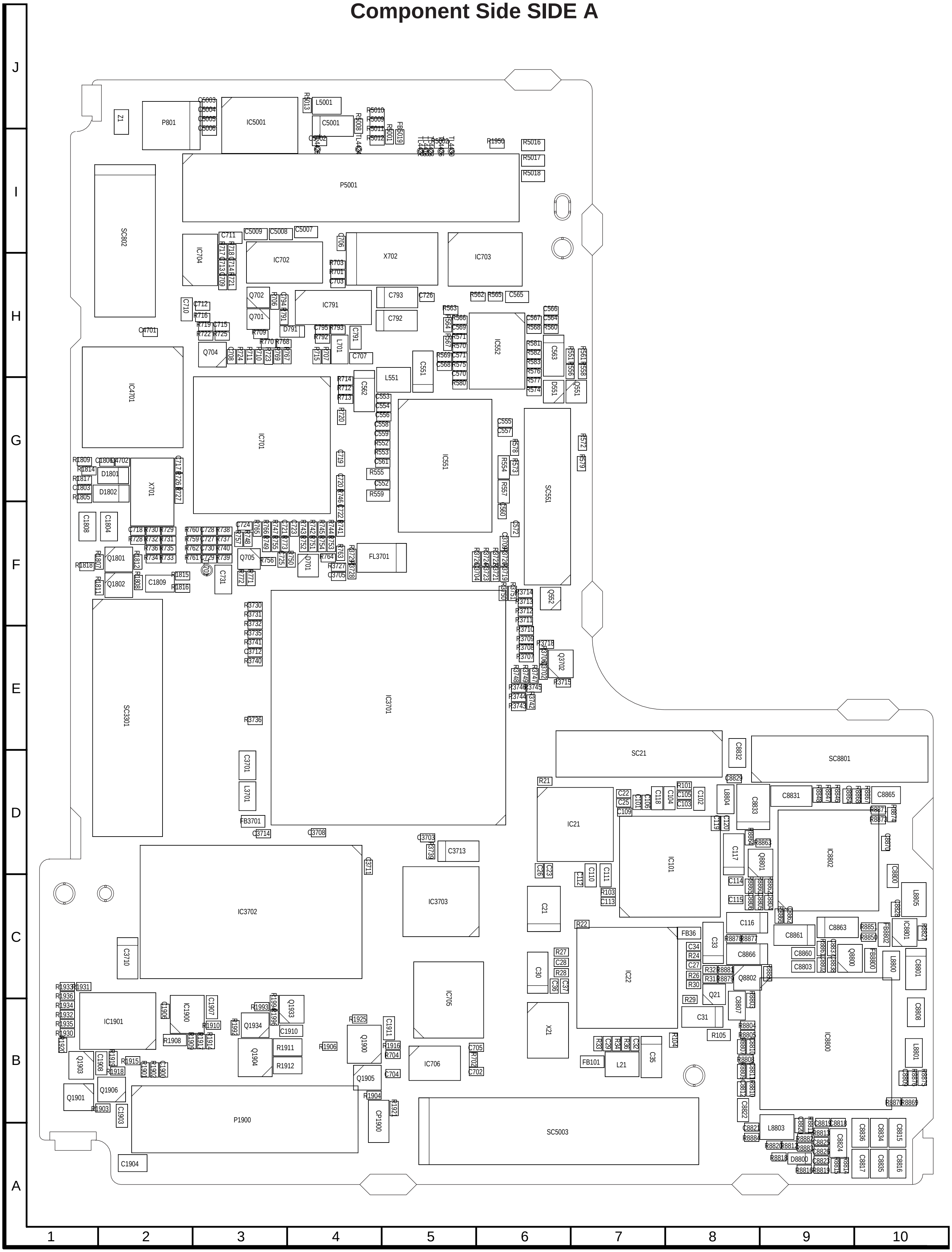
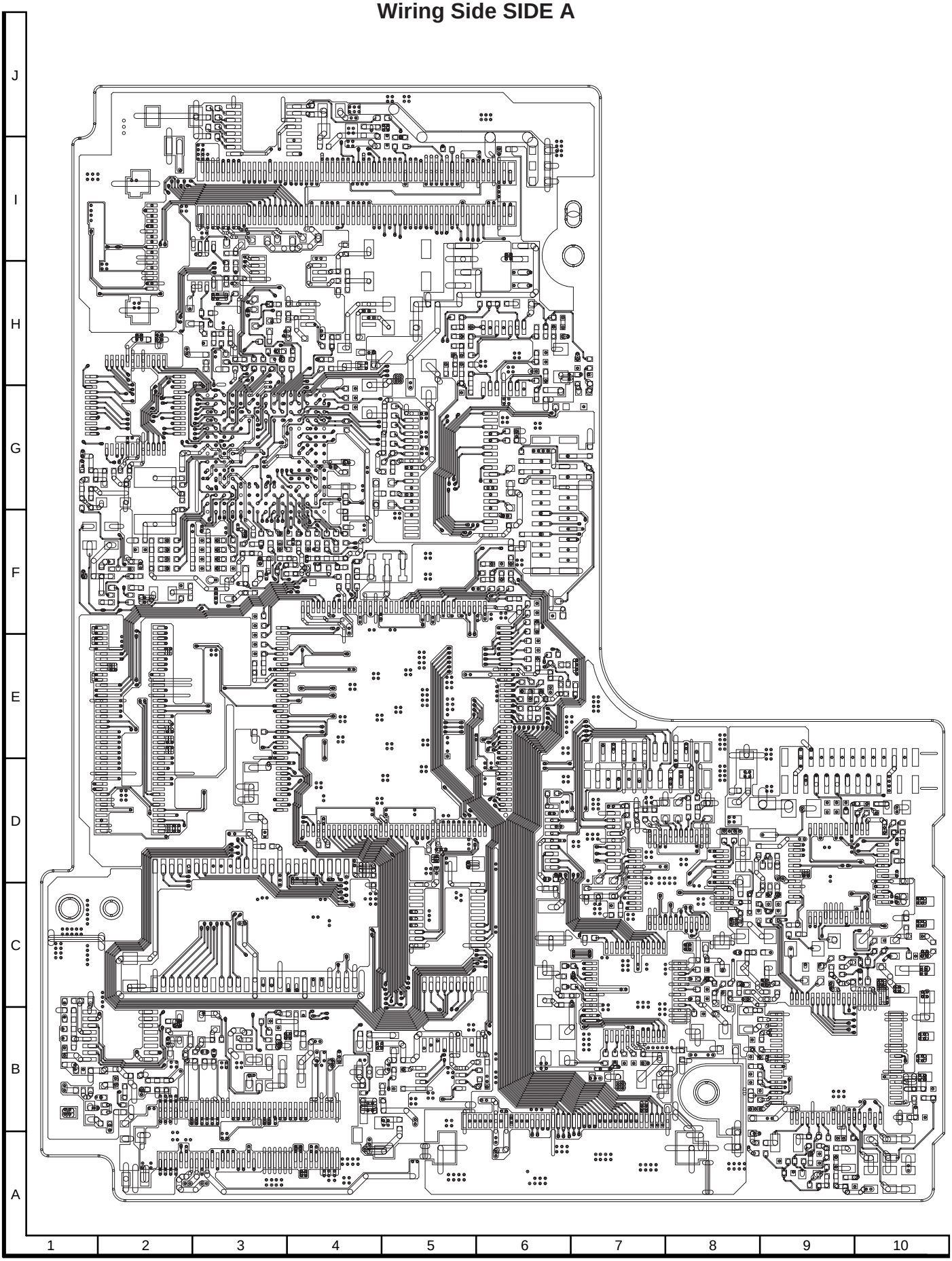
15. PRINTED WIRING BOARD ASSEMBLIES MAIN PWB

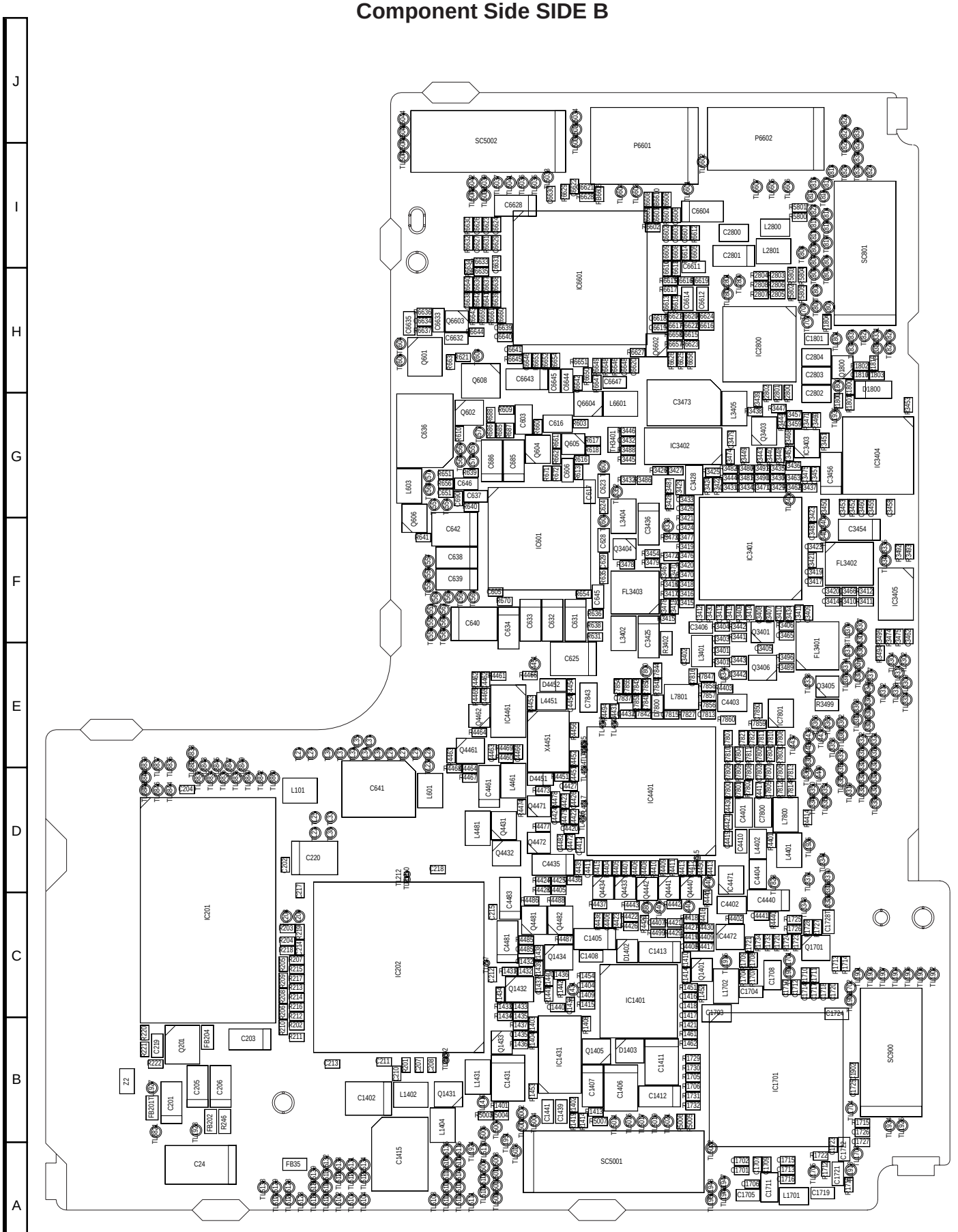
Component Side SIDE A



Wiring Side SIDE A



Component Side SIDE B



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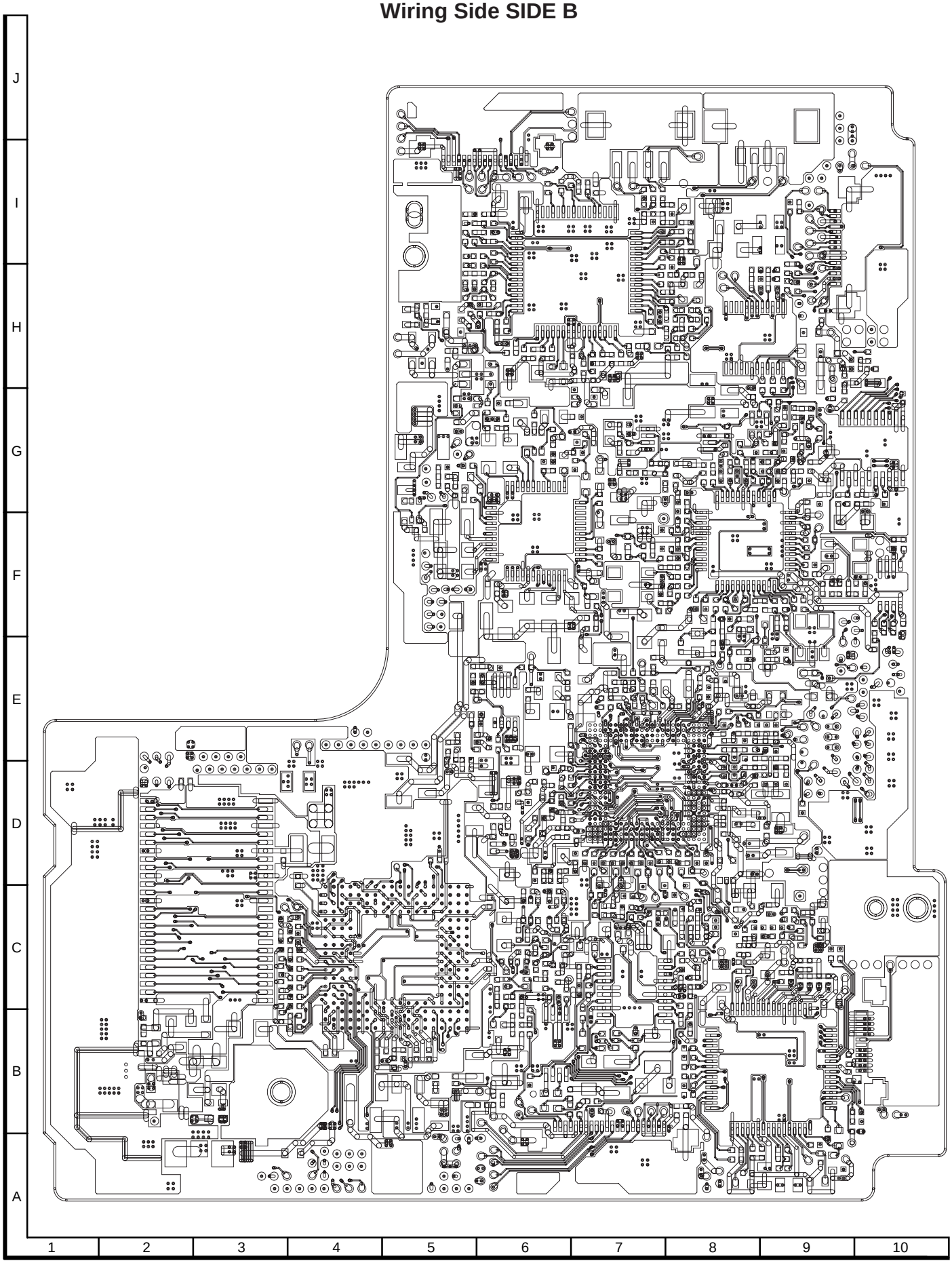
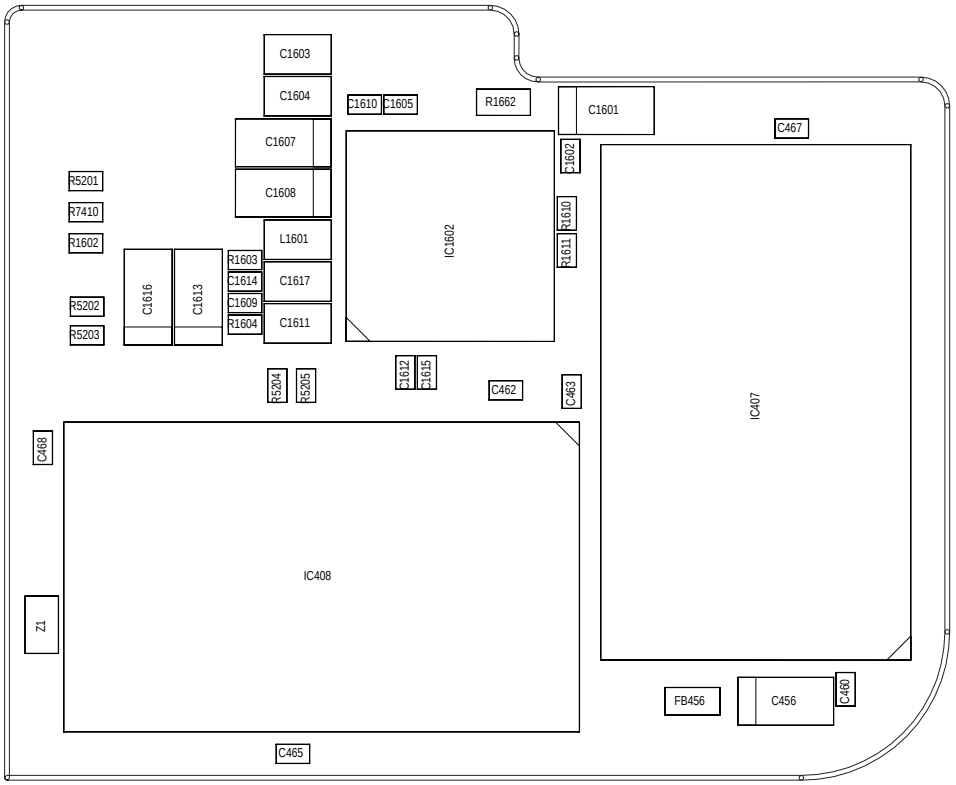
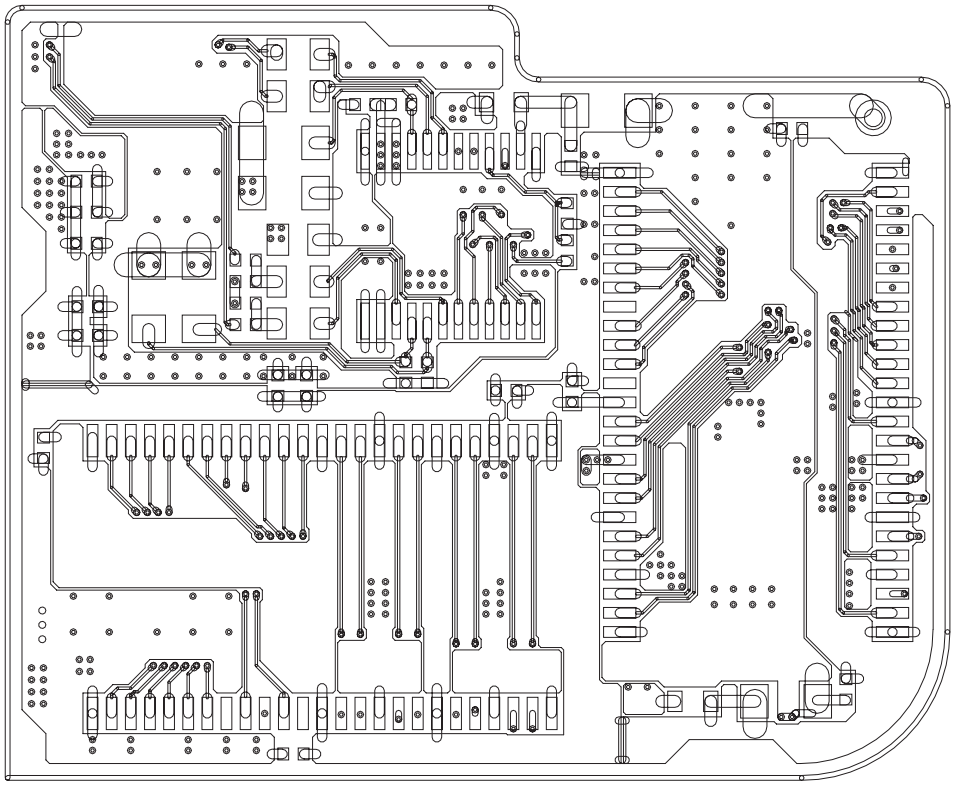


SUB PWB

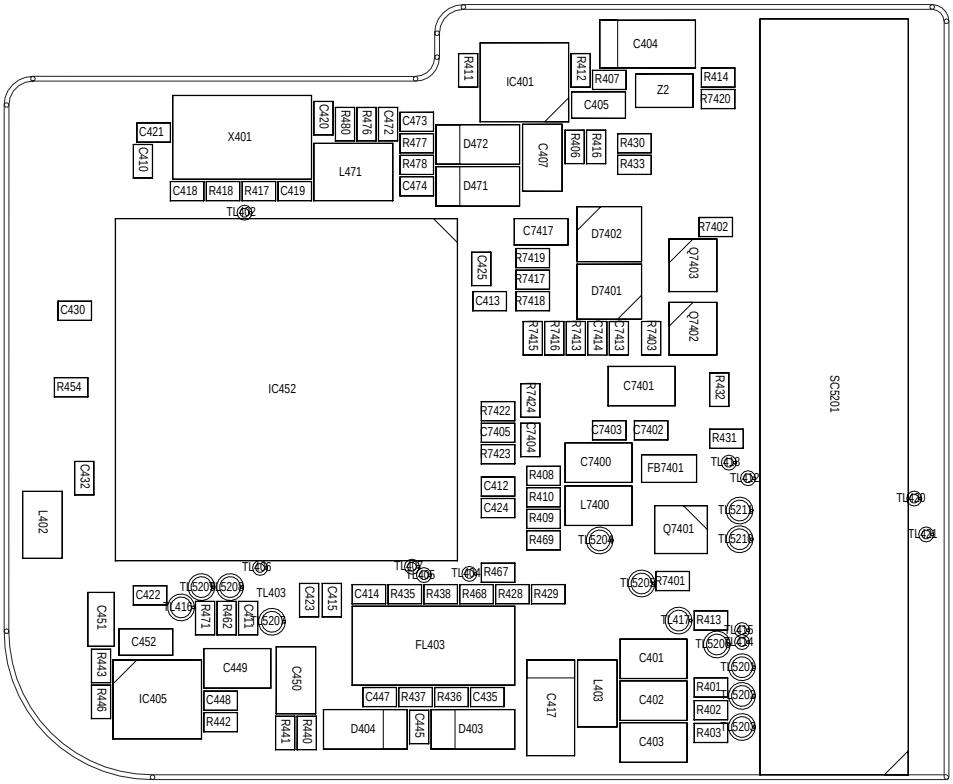
Component Side SIDE A



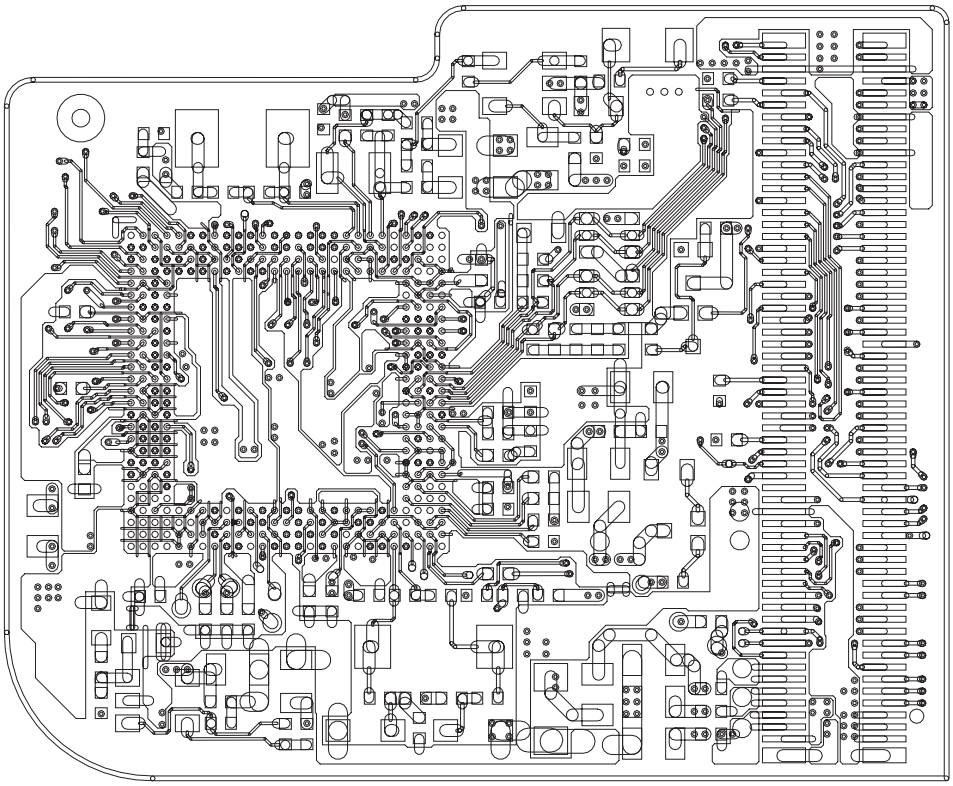
Wiring Side SIDE A



Component Side SIDE B

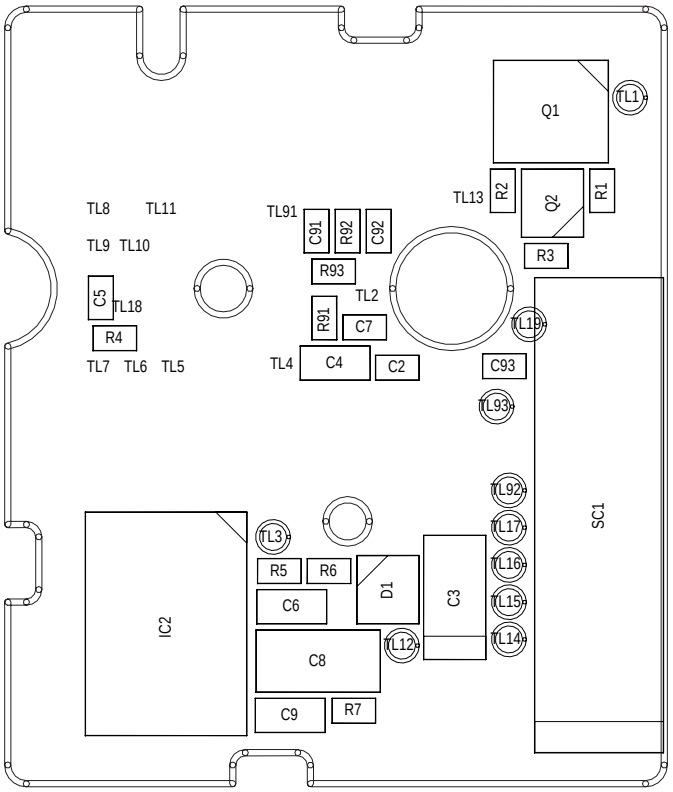


Wiring Side SIDE B

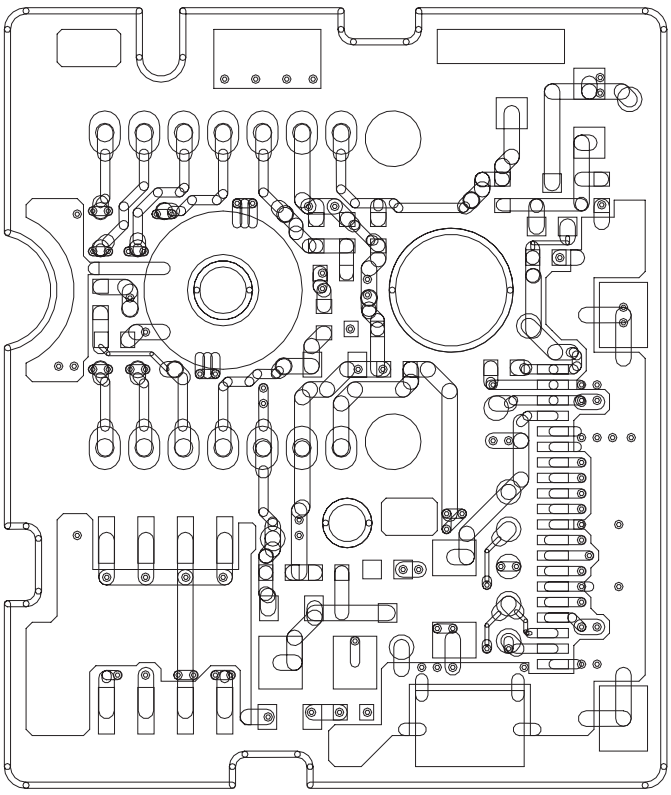


CCD PWB

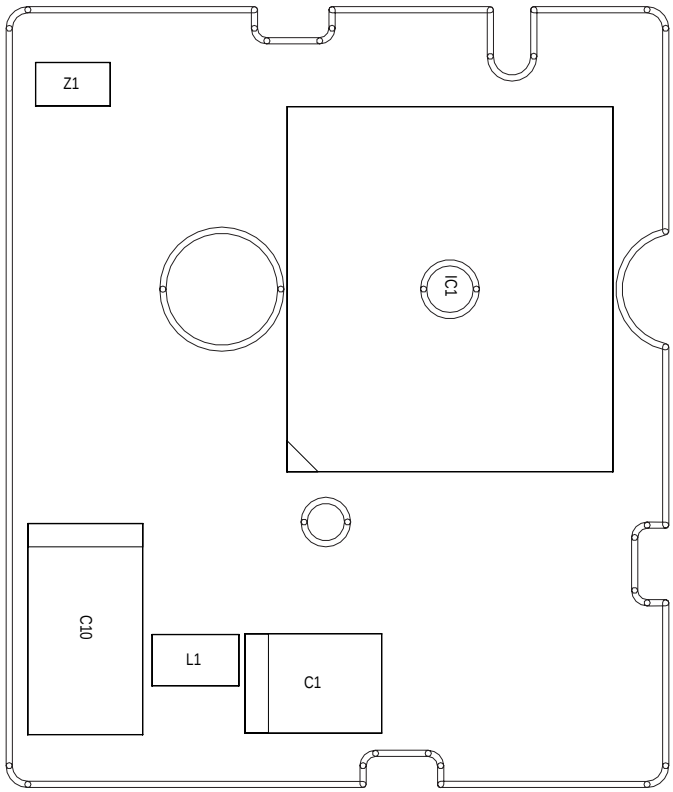
Component Side SIDE A



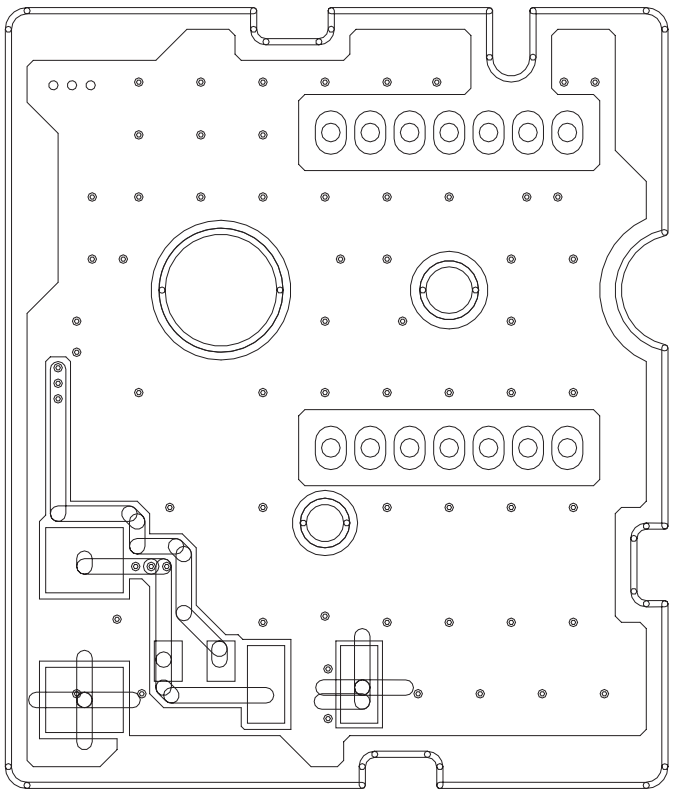
Wiring Side SIDE A



Component Side SIDE B

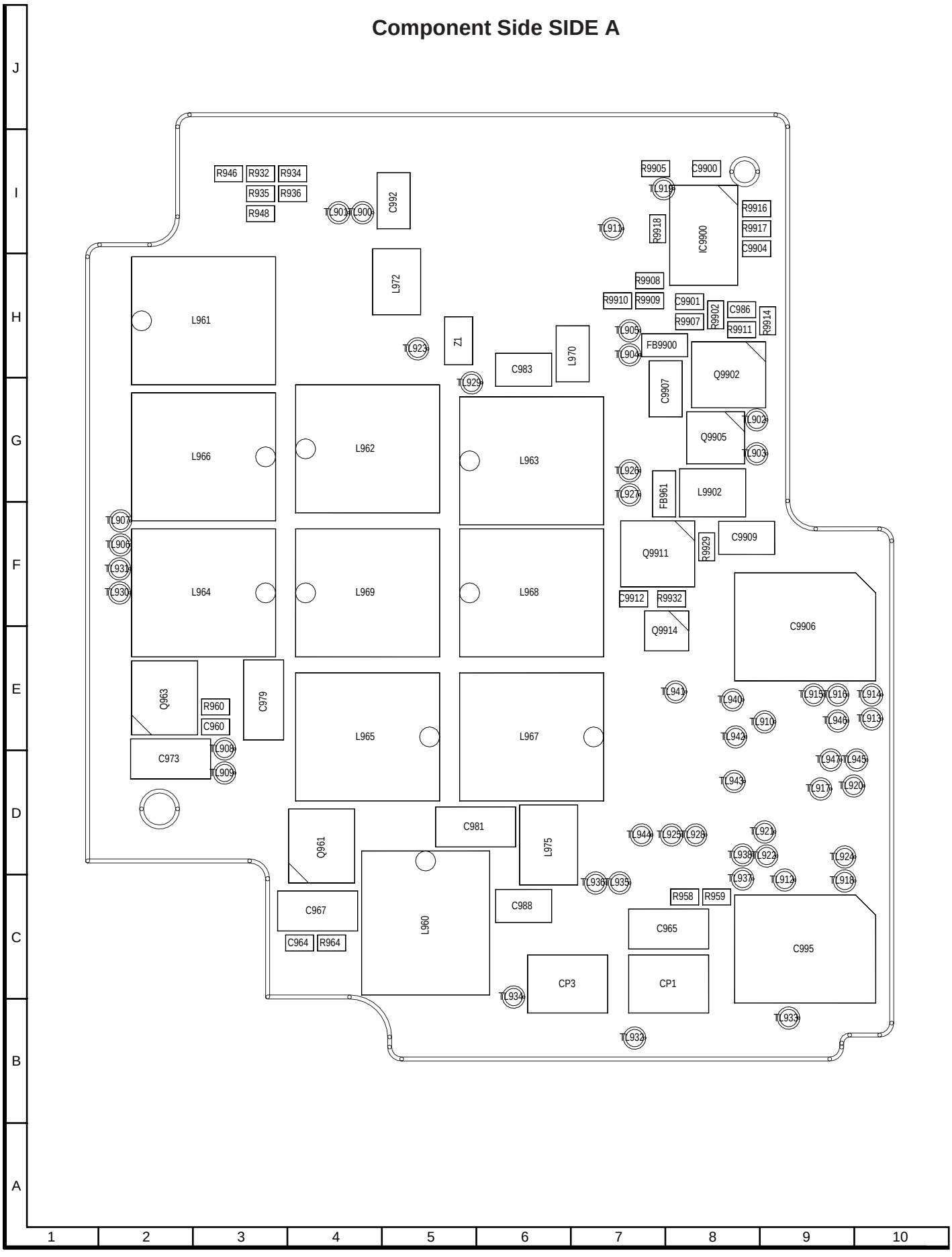


Wiring Side SIDE B

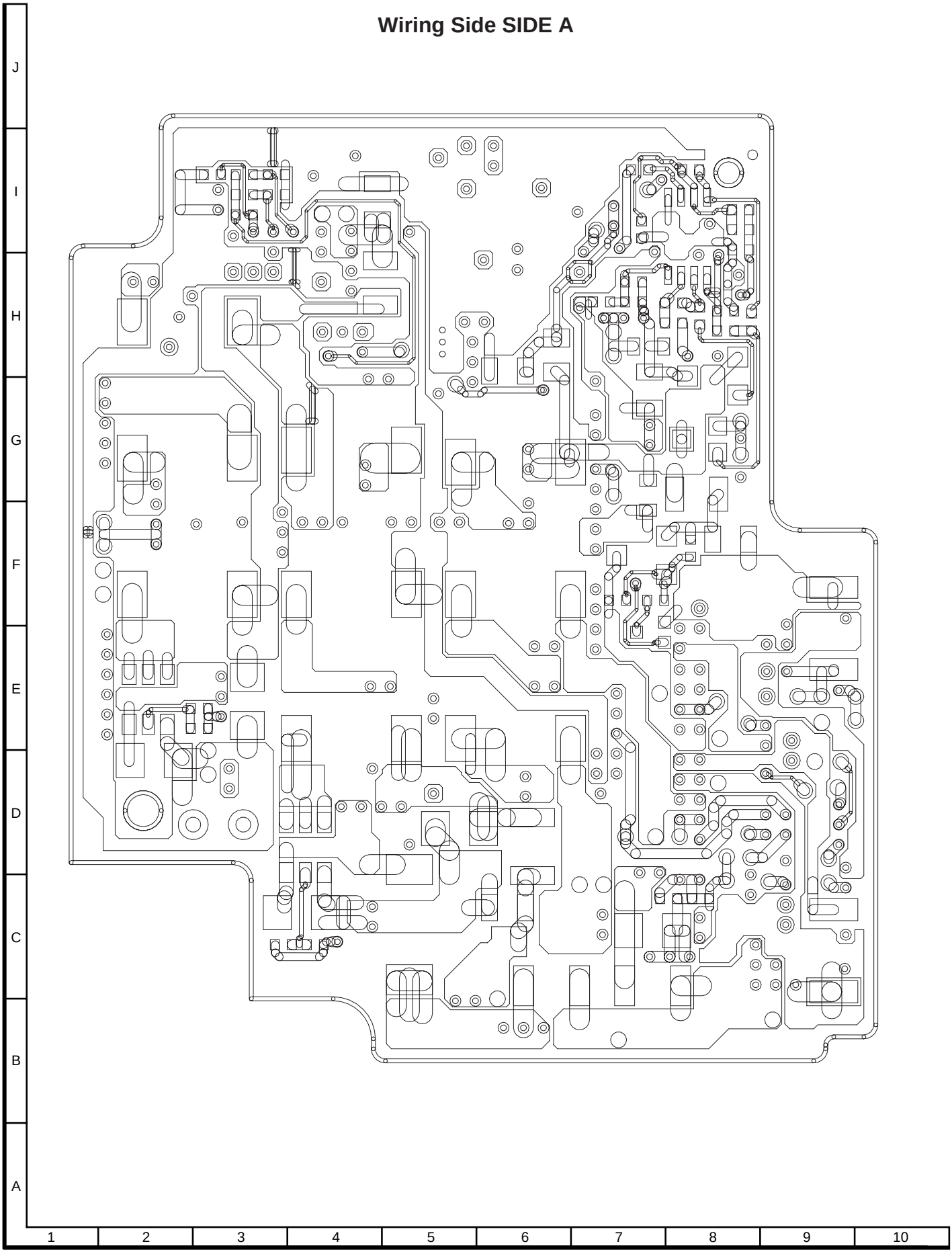


POWER PWB

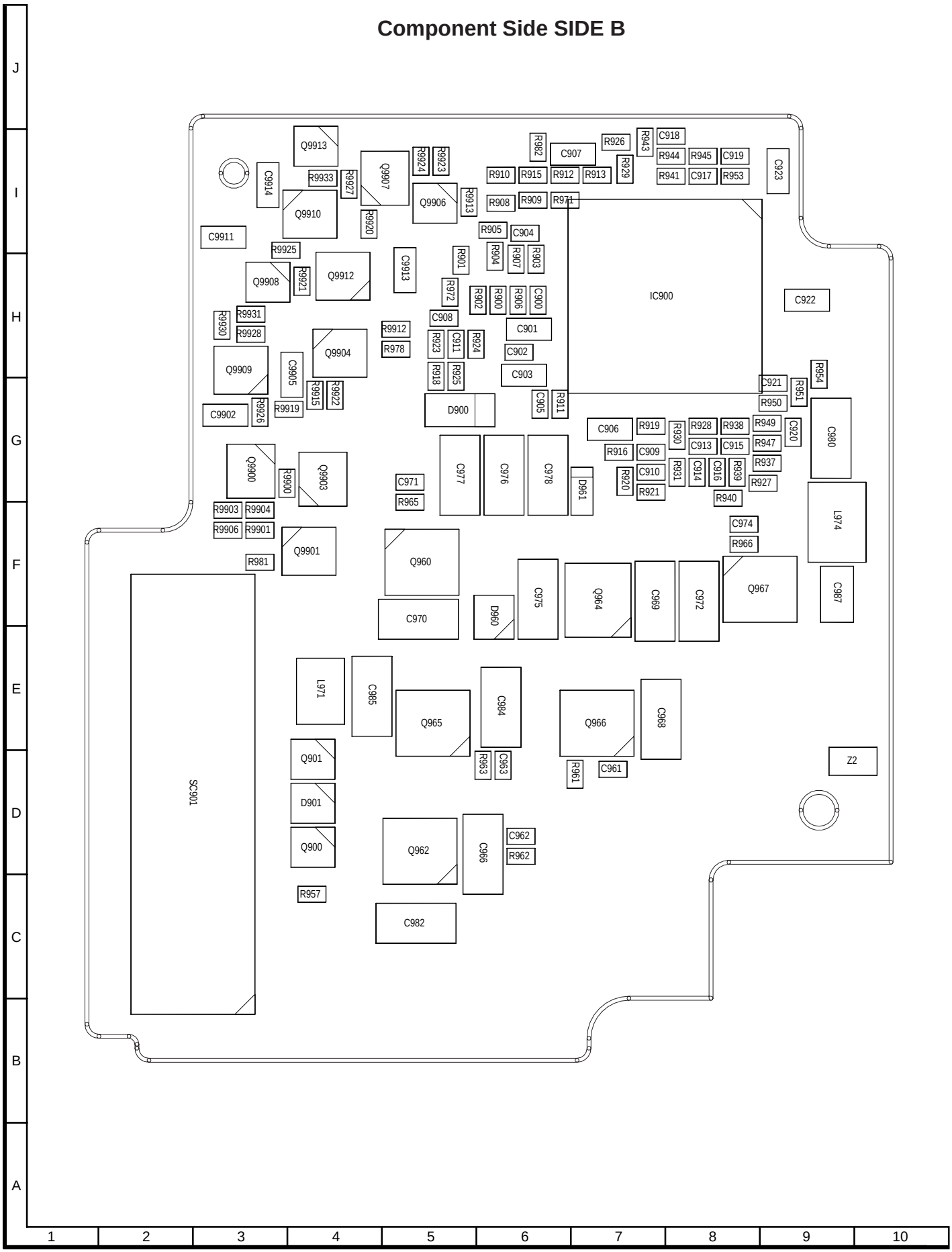
Component Side SIDE A



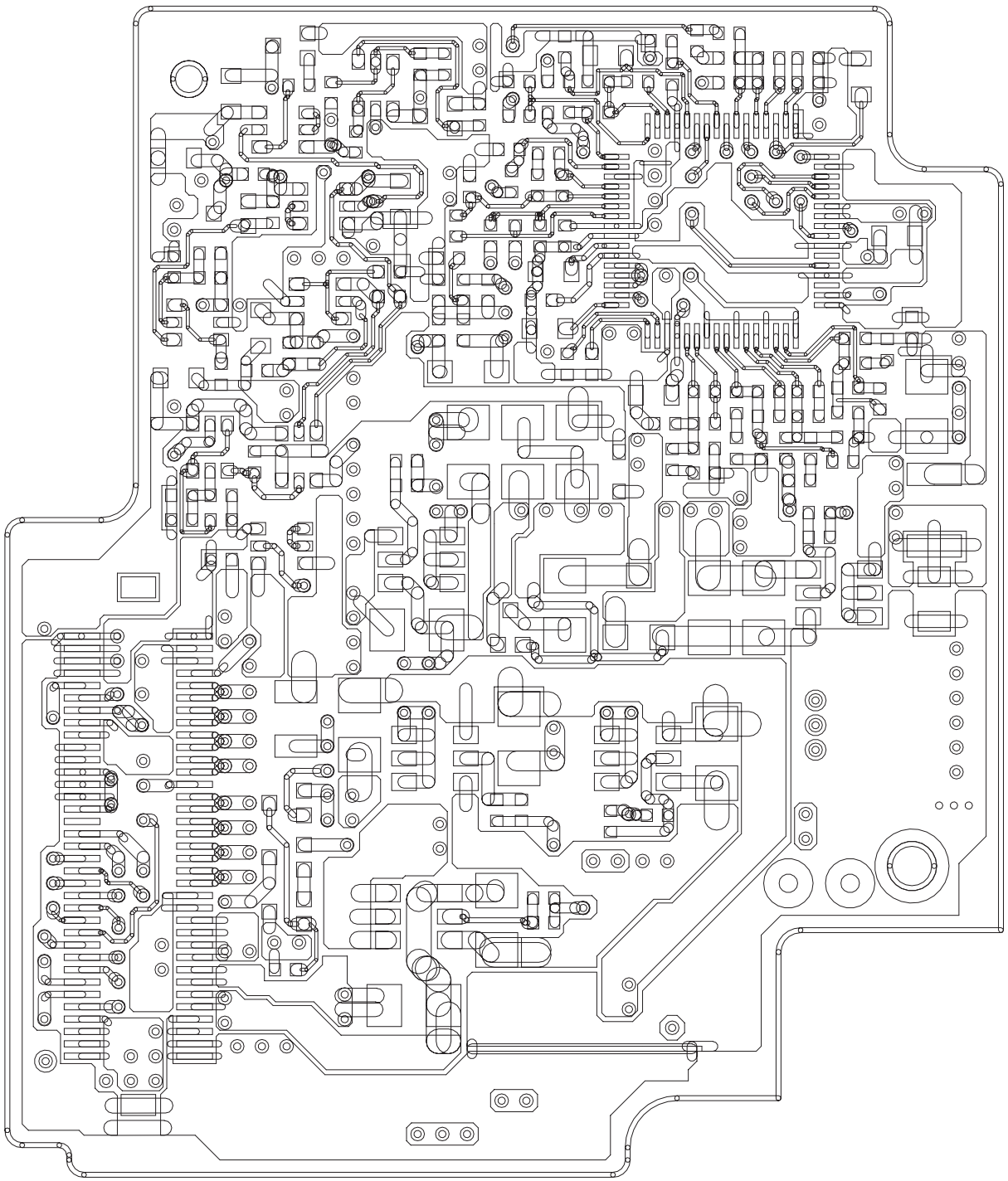
Wiring Side SIDE A



Component Side SIDE B

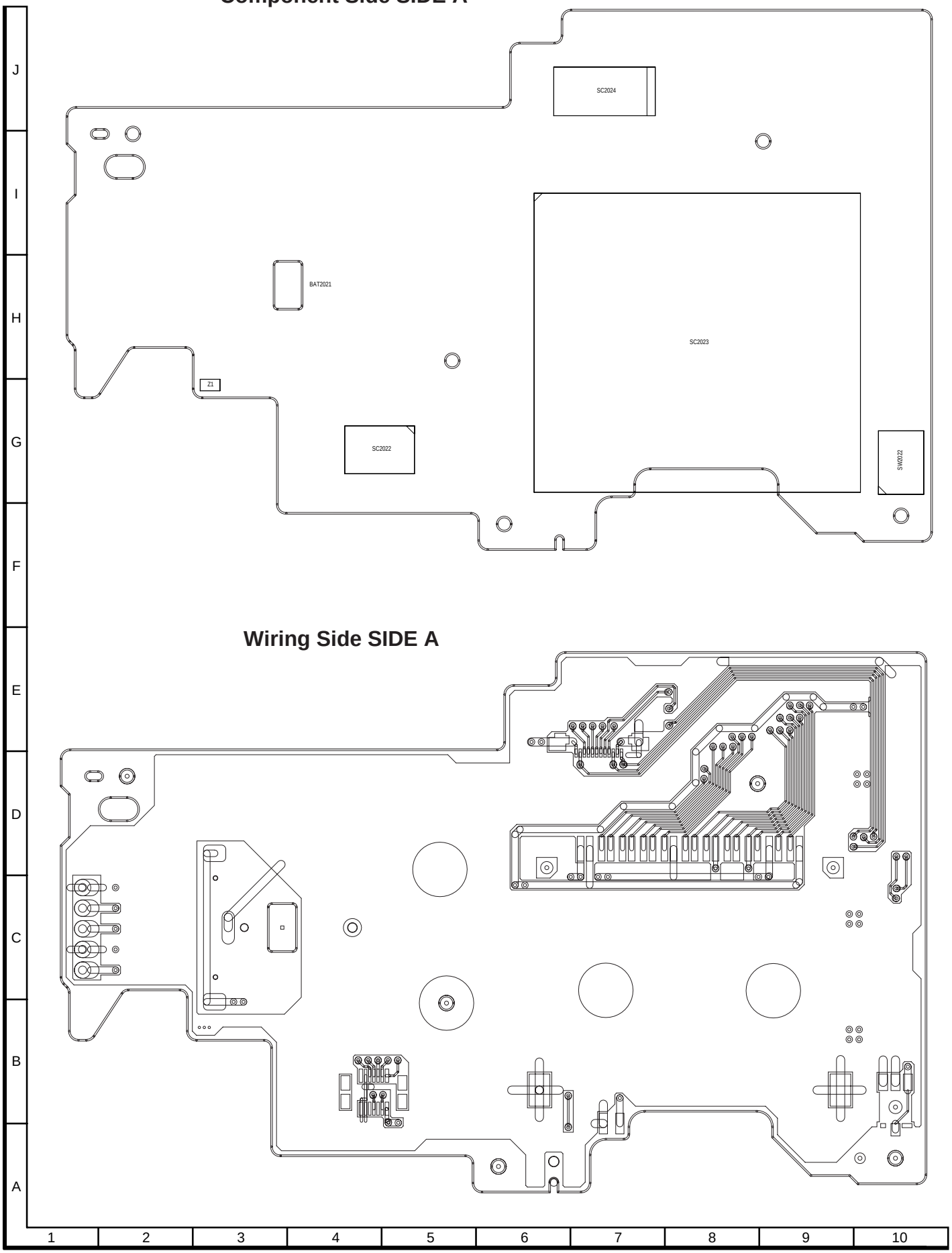


Wiring Side SIDE B



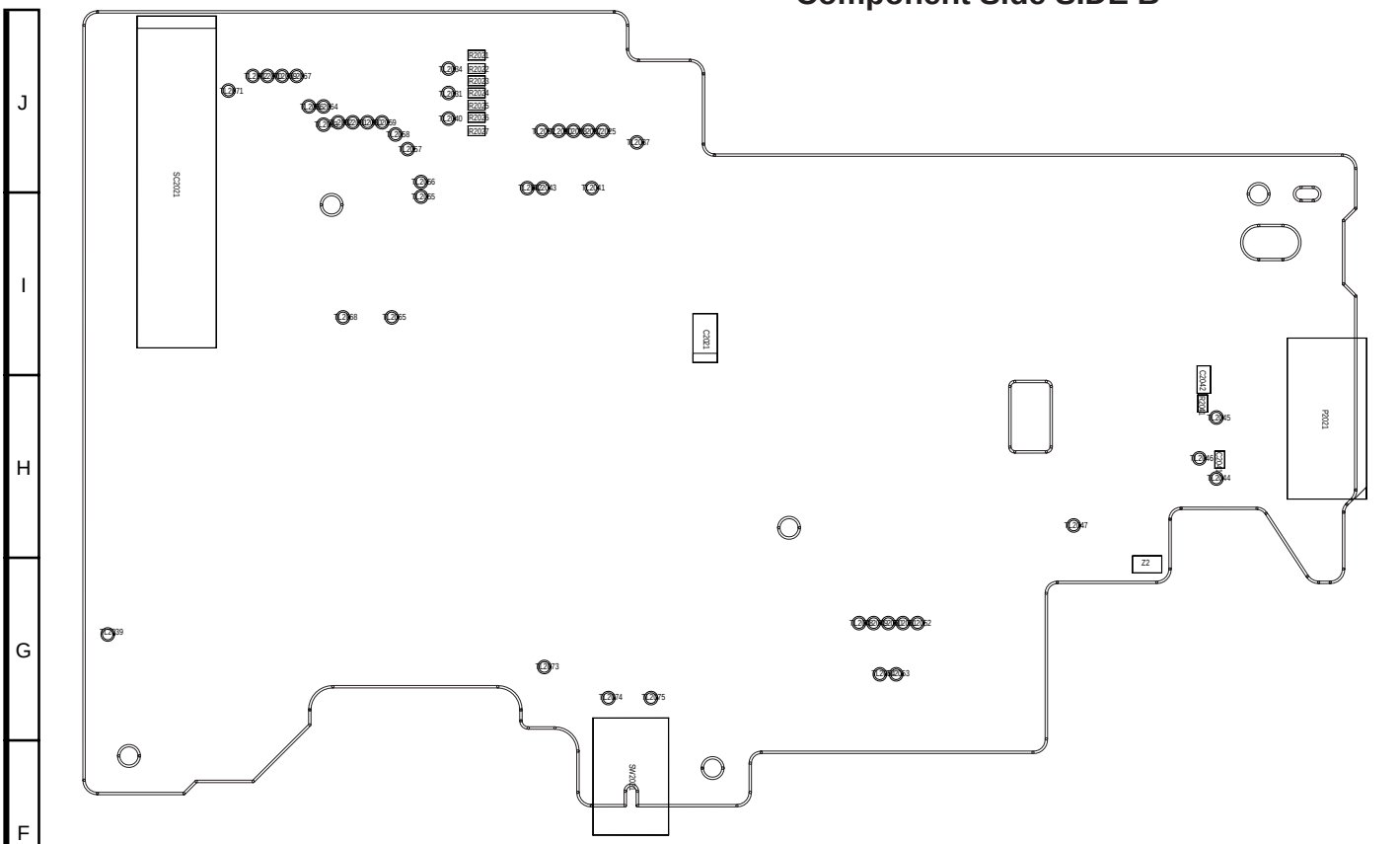
JOINT PWB

Component Side SIDE A

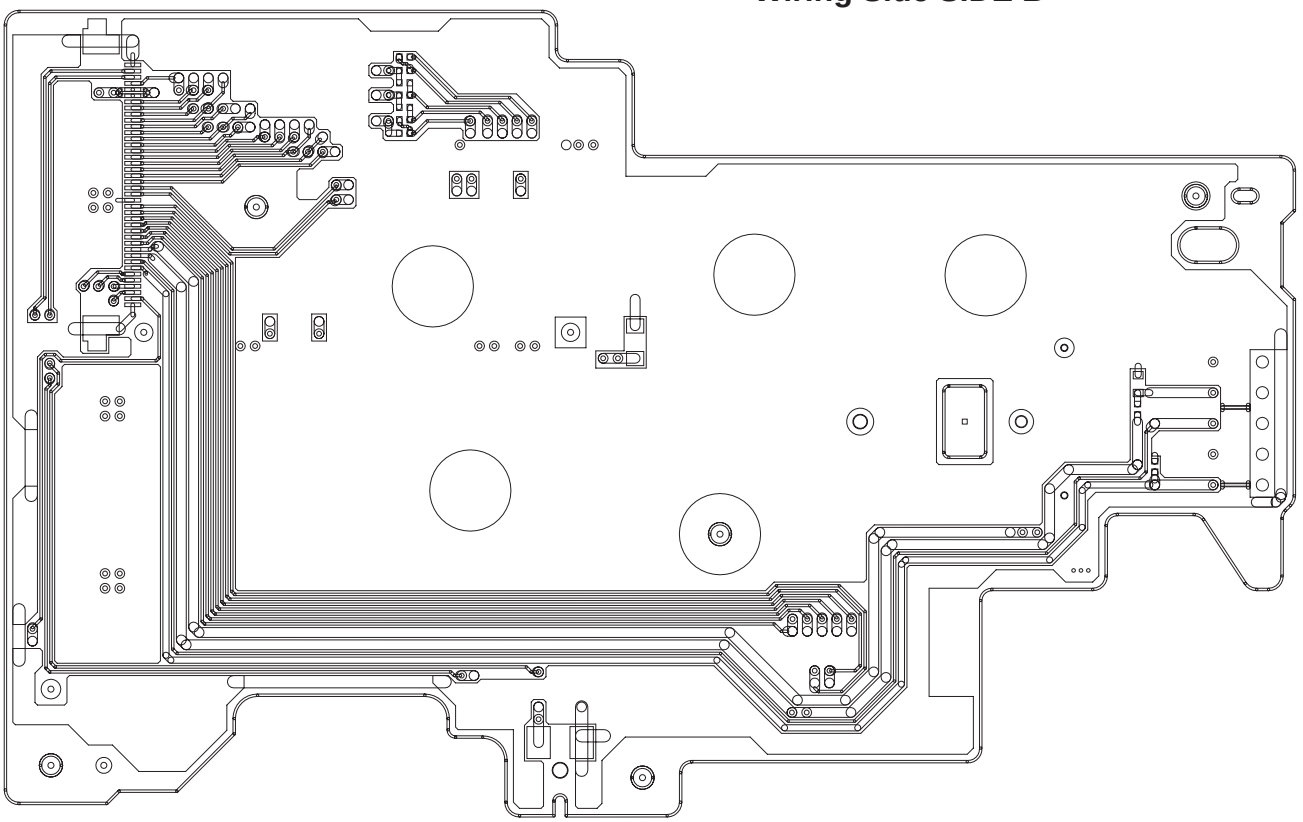


Wiring Side SIDE A

Component Side SIDE B

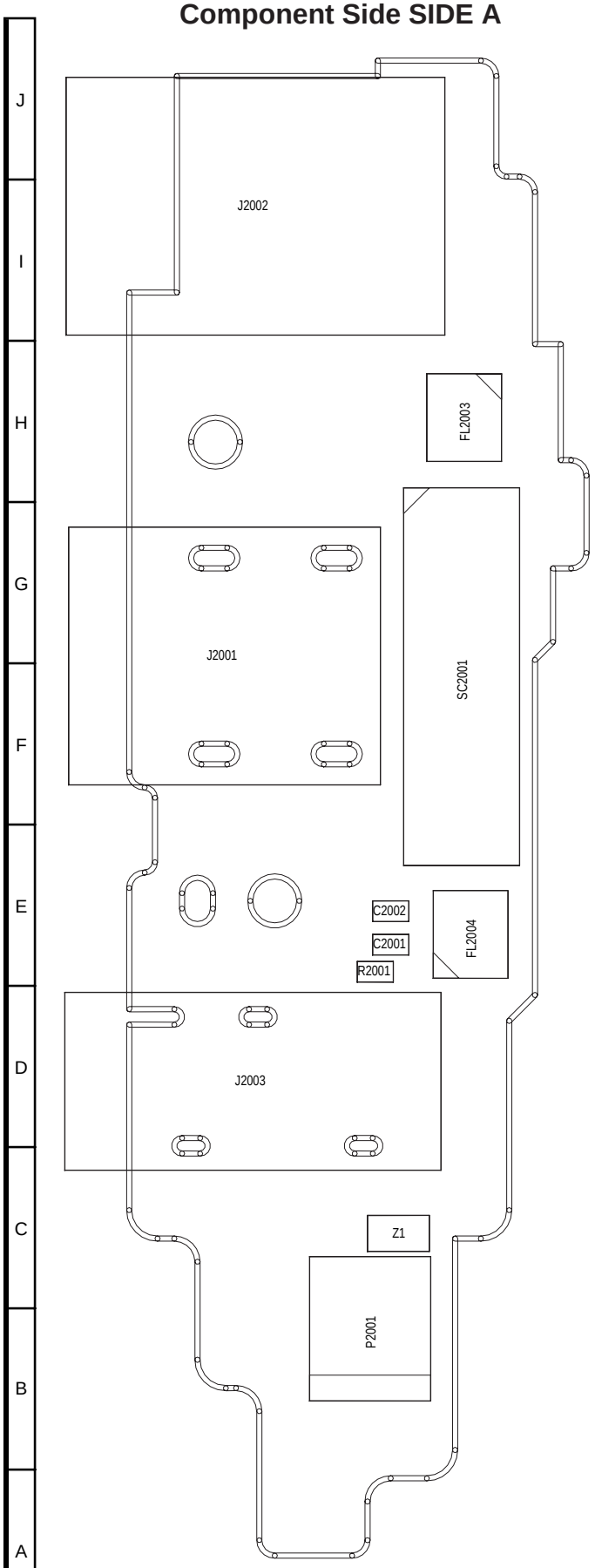


Wiring Side SIDE B

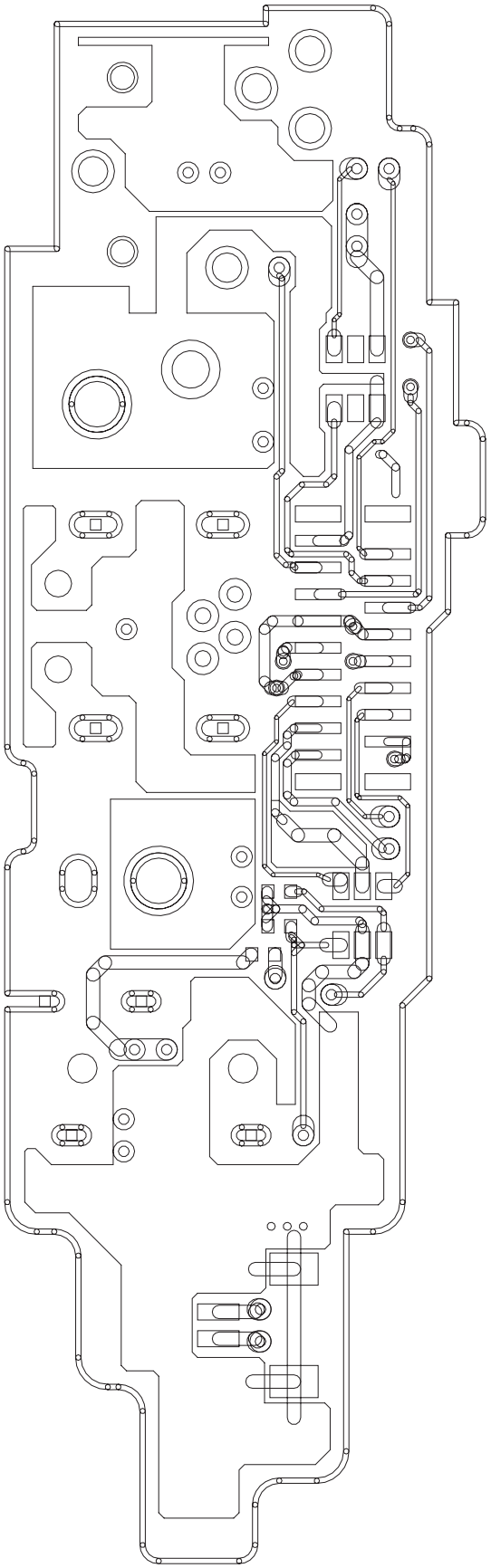


DV/PC CONNECTION PWB

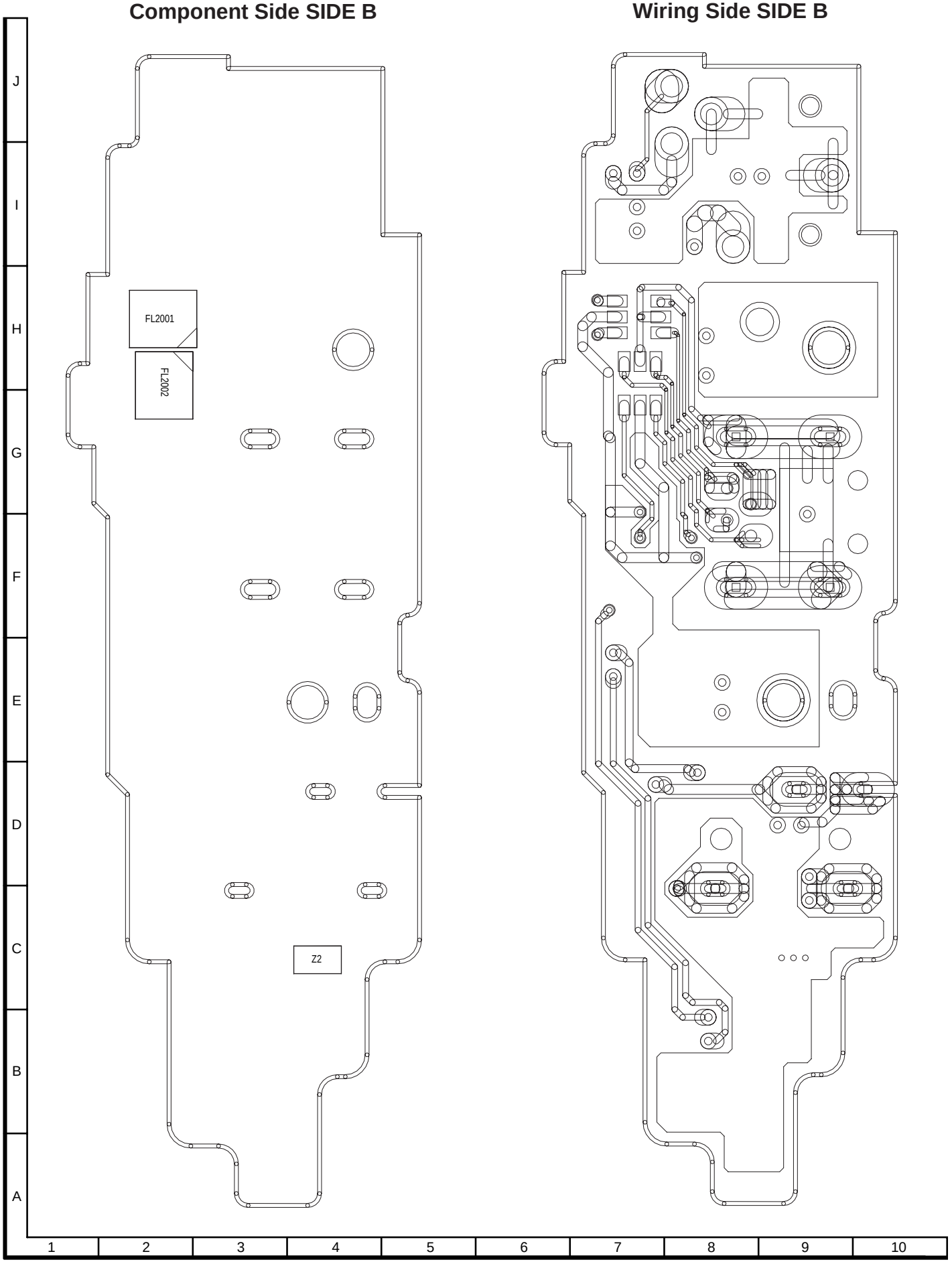
Component Side SIDE A



Wiring Side SIDE A



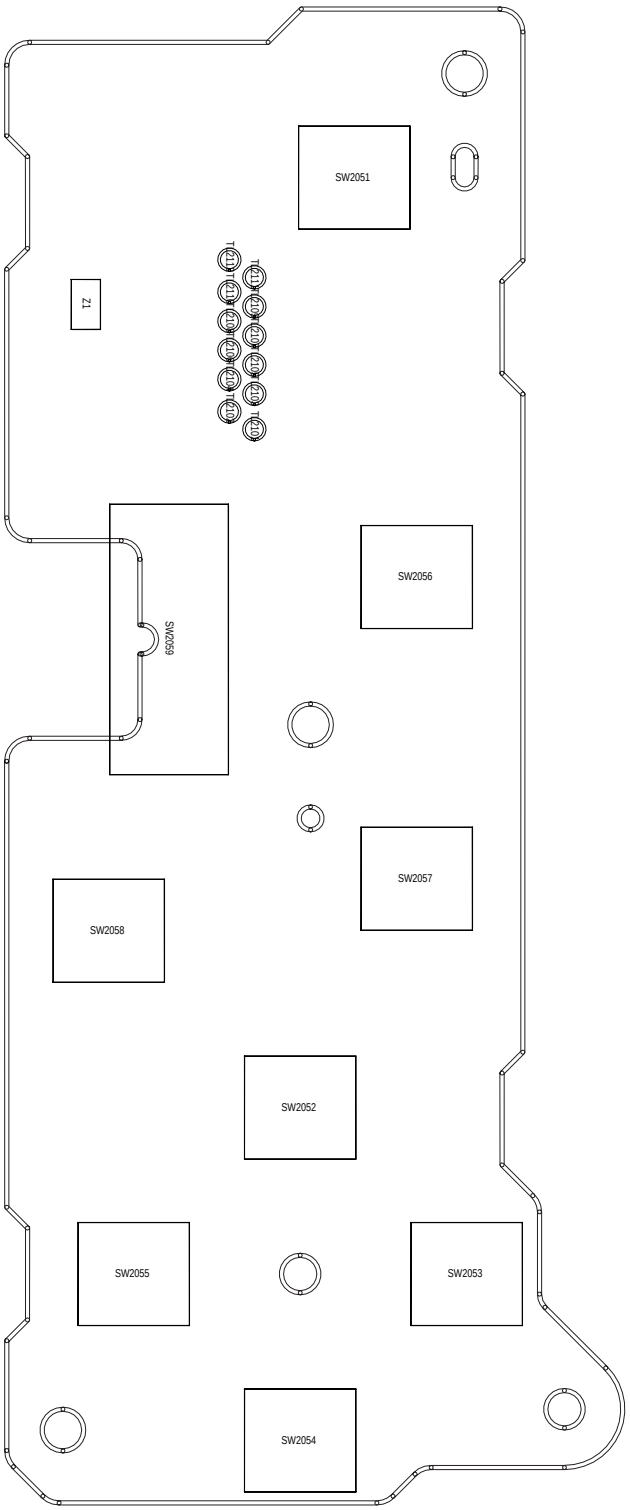
Component Side SIDE B



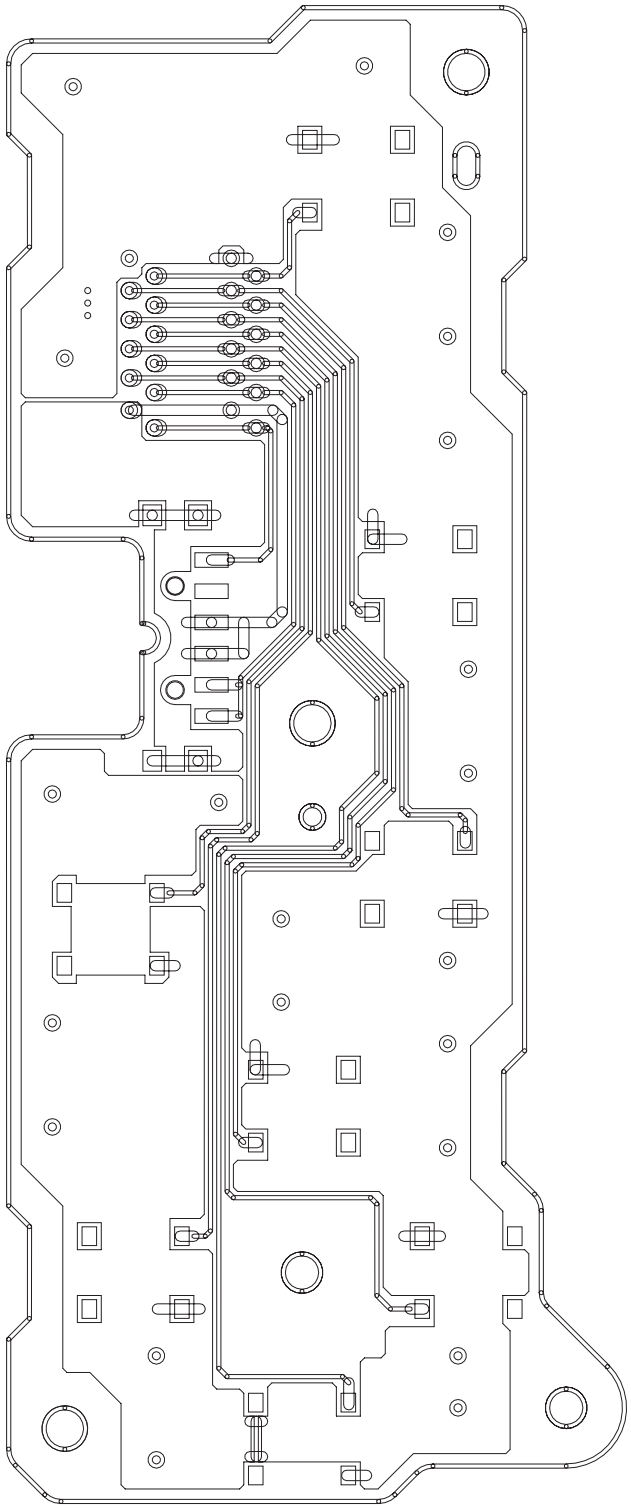
Wiring Side SIDE B

OPERATION PWB

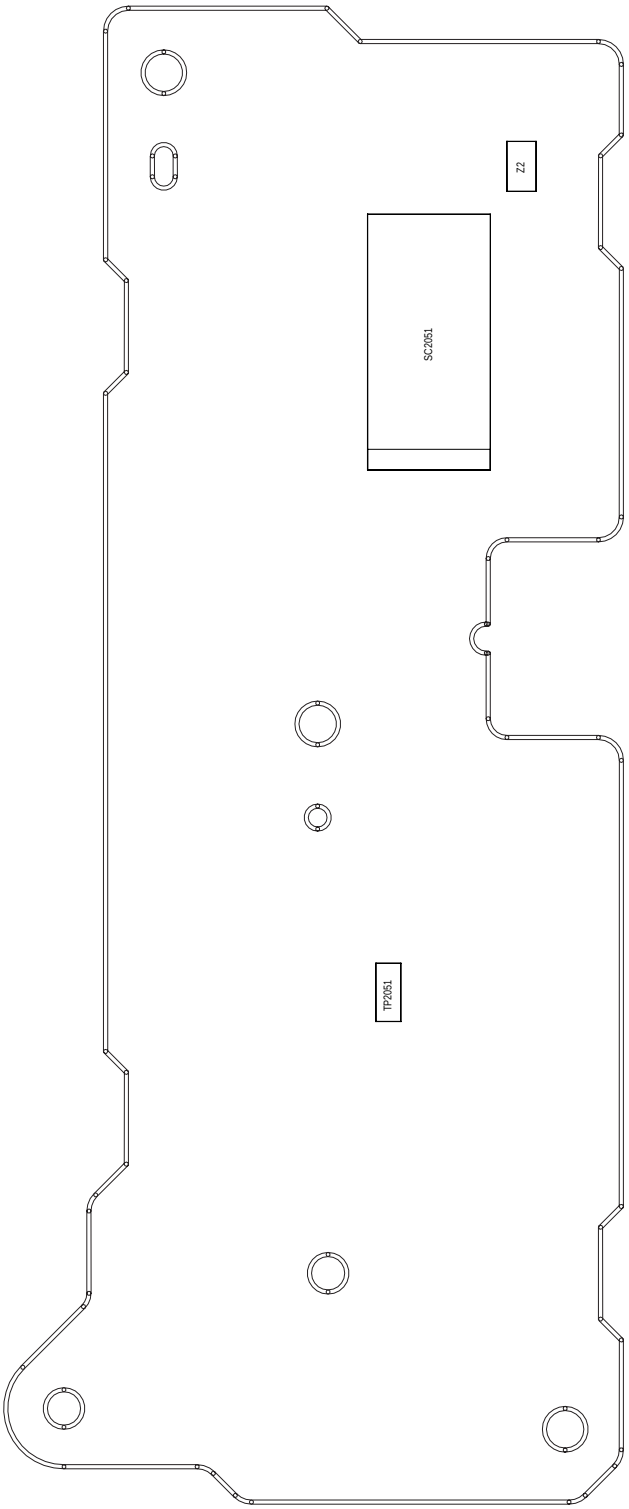
Component Side SIDE A



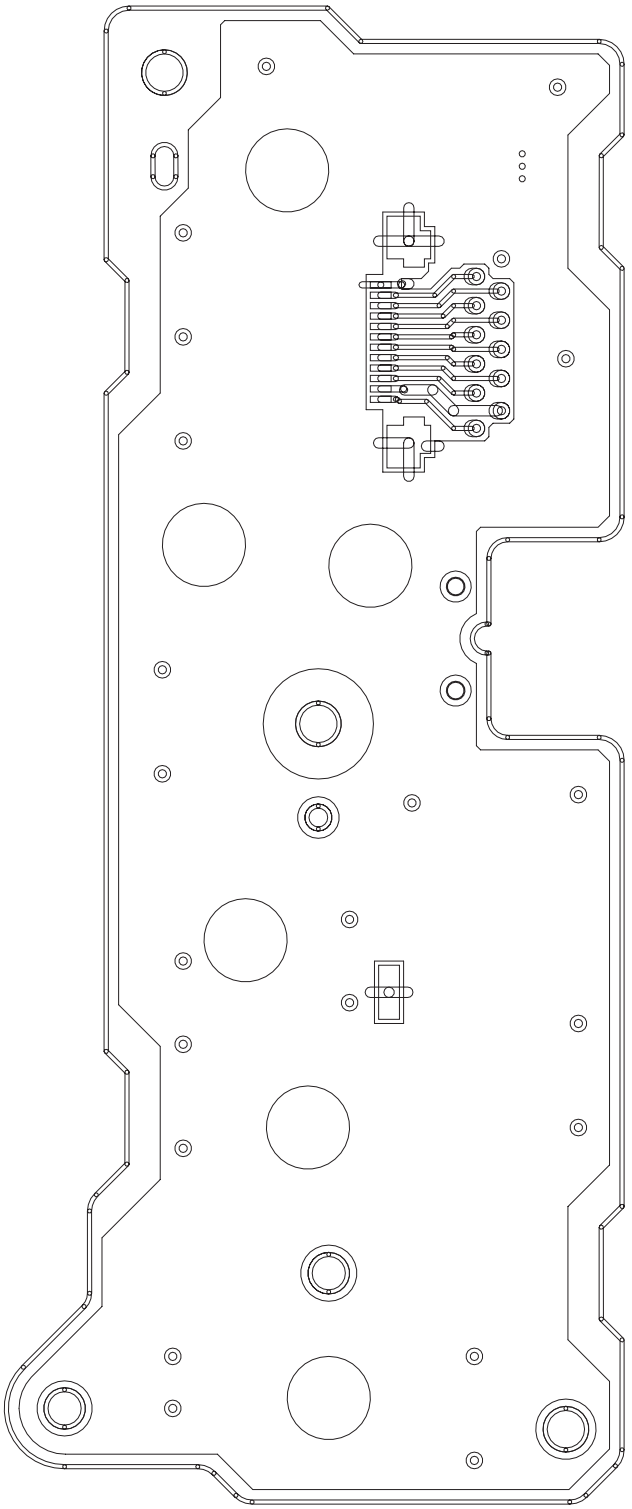
Wiring Side SIDE A



Component Side SIDE B

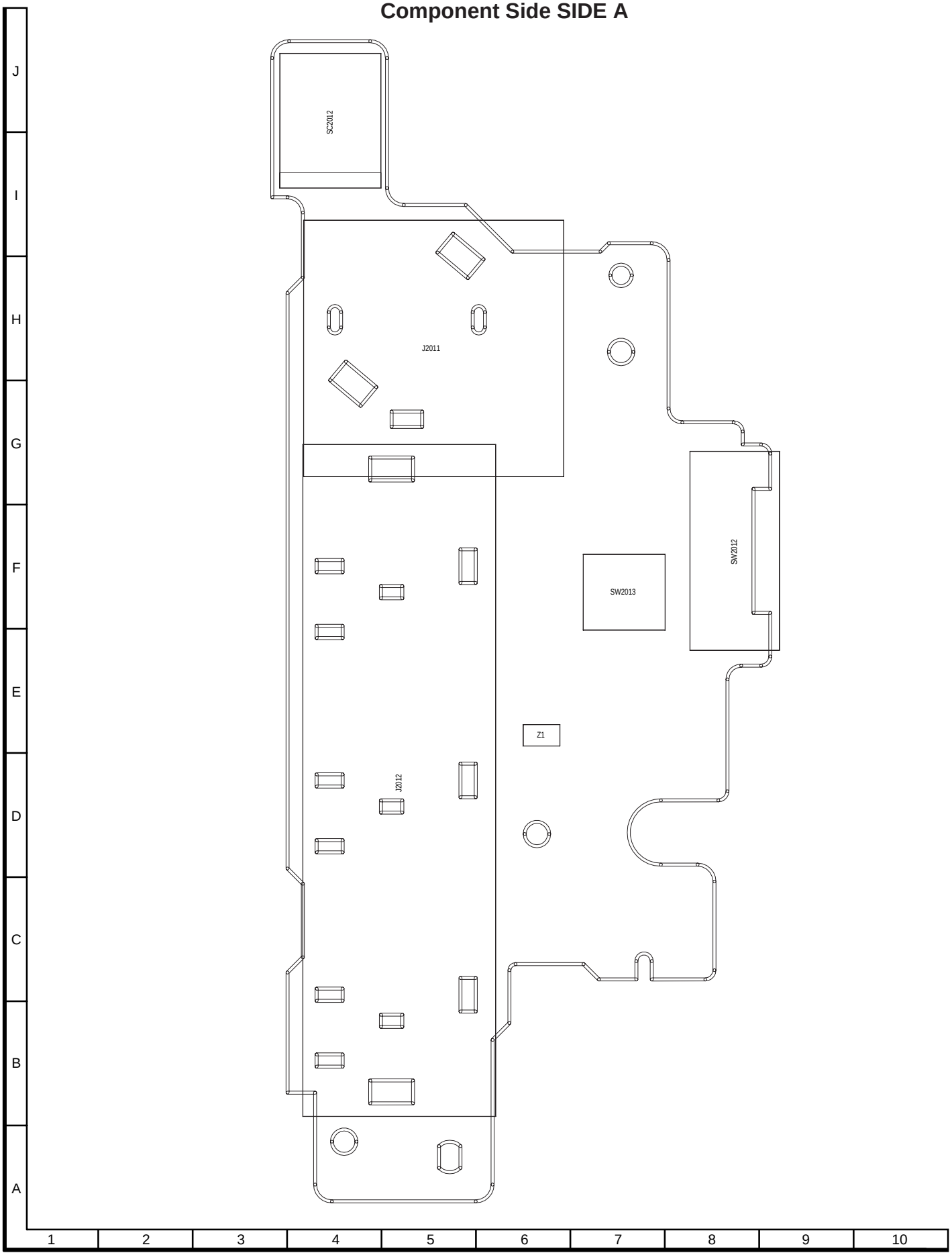


Wiring Side SIDE B

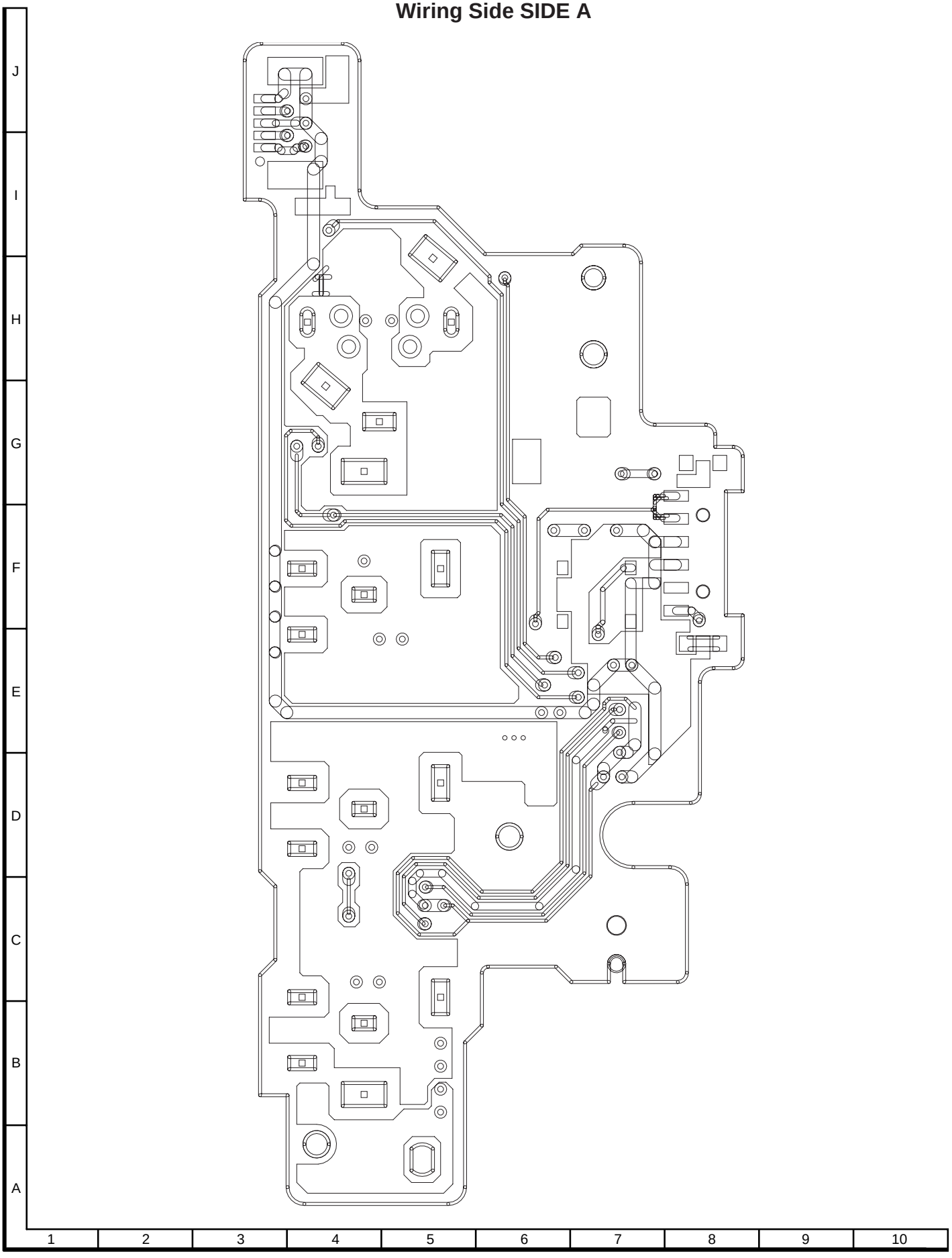


AVS DC JACK PWB

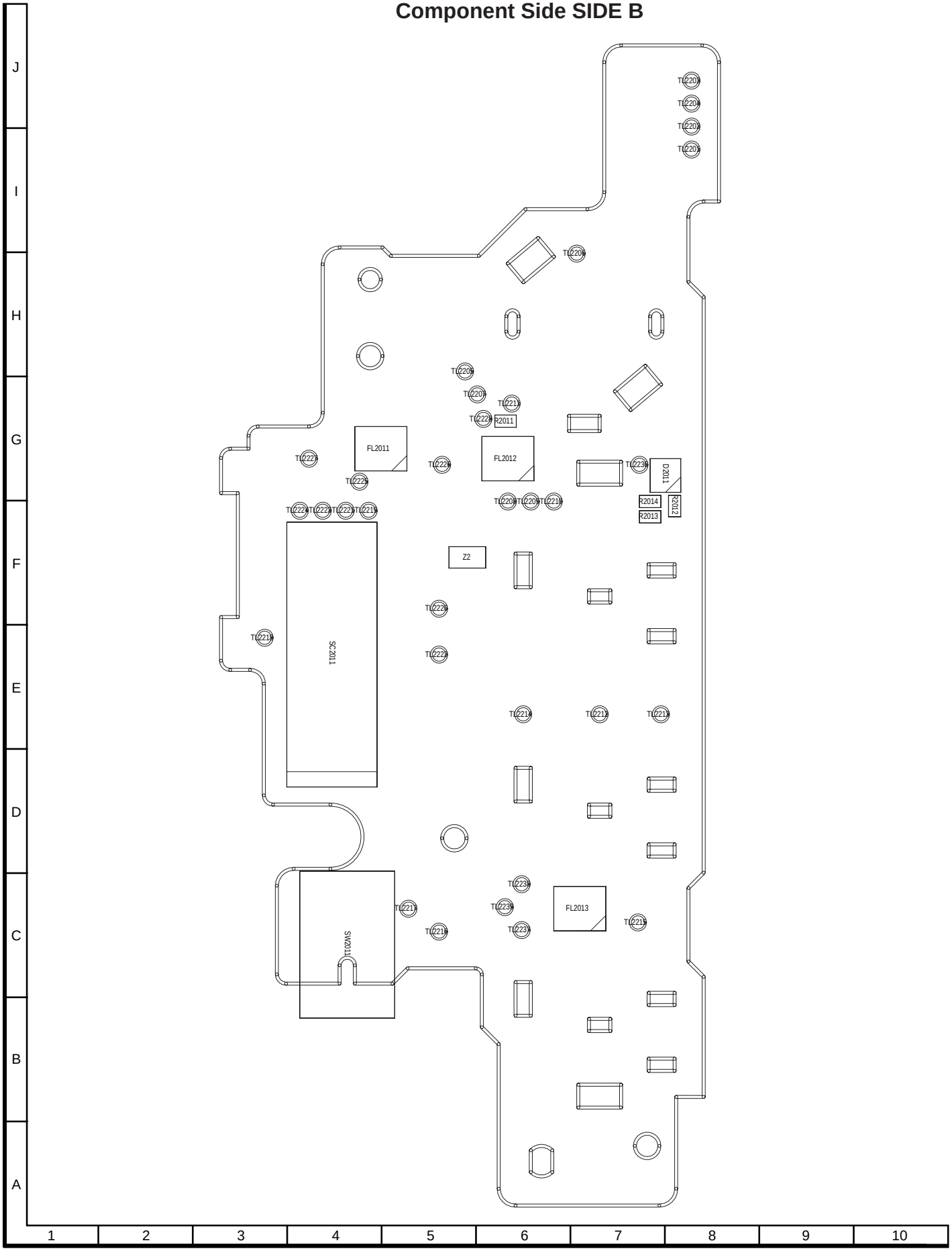
Component Side SIDE A



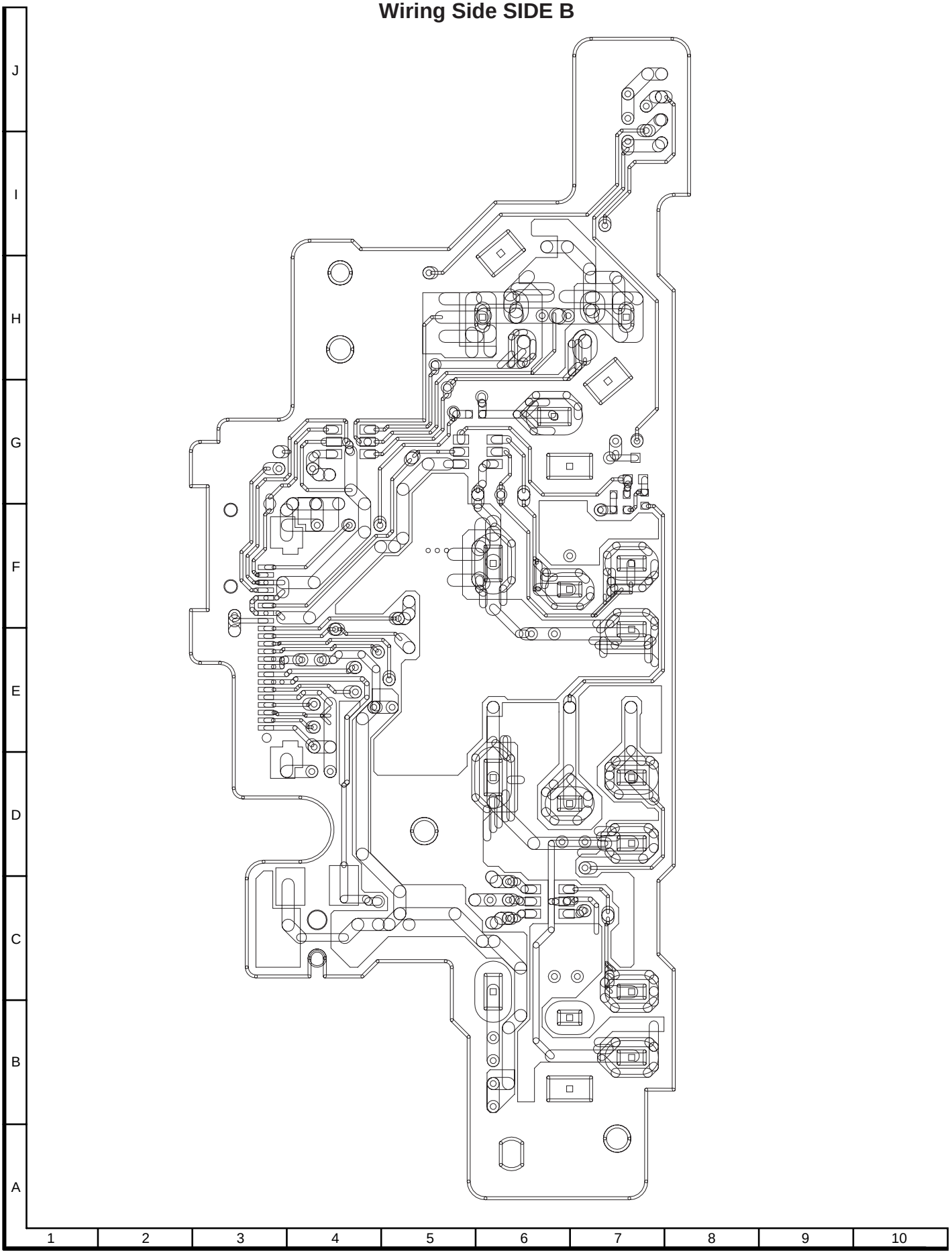
Wiring Side SIDE A



Component Side SIDE B

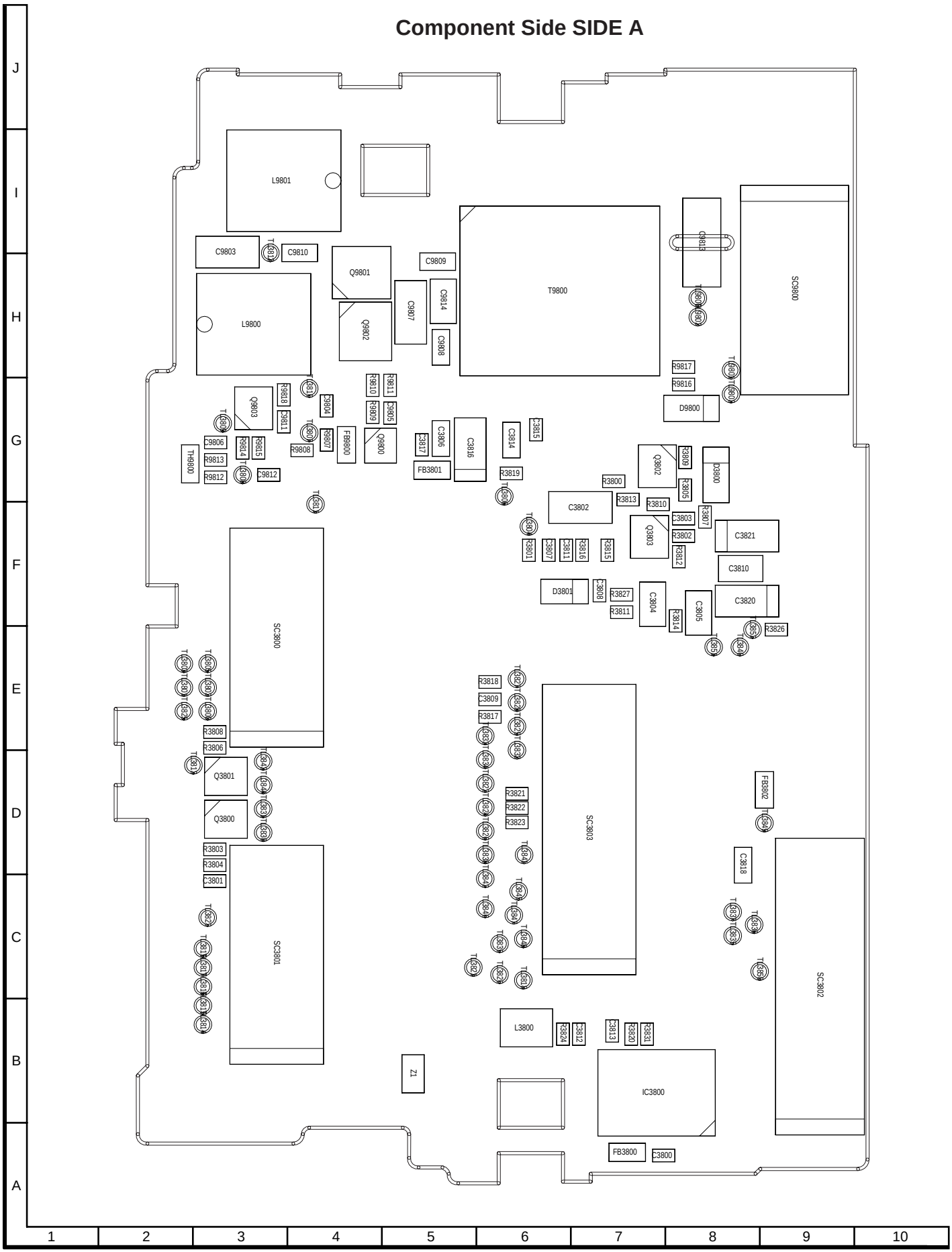


Wiring Side SIDE B

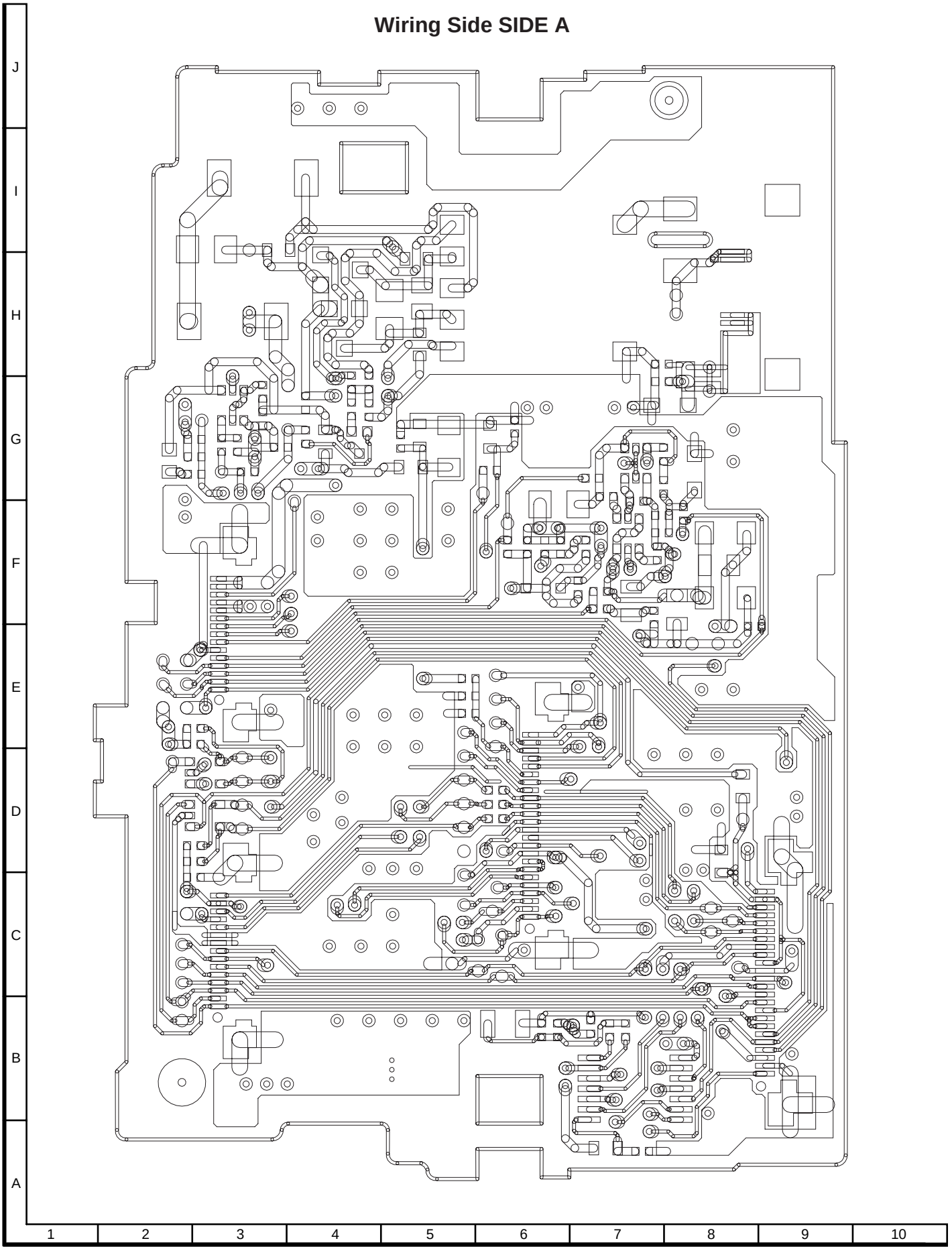


LCD PWB

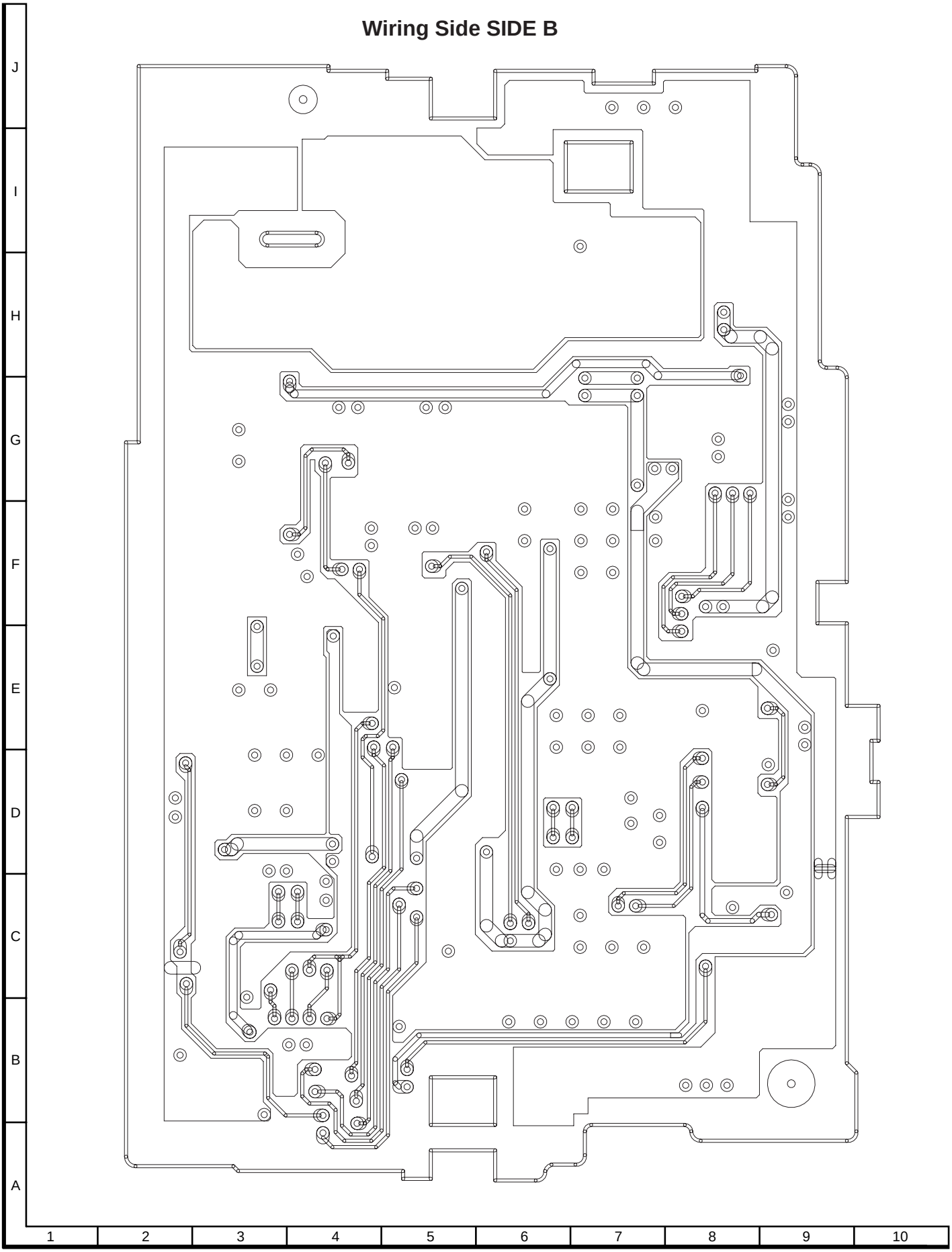
Component Side SIDE A



Wiring Side SIDE A

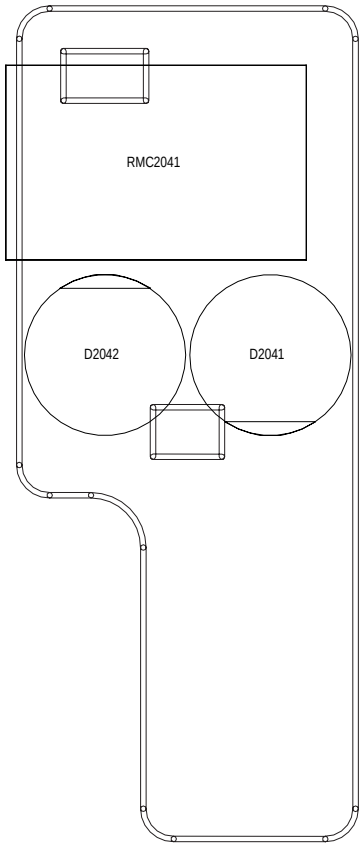


Wiring Side SIDE B

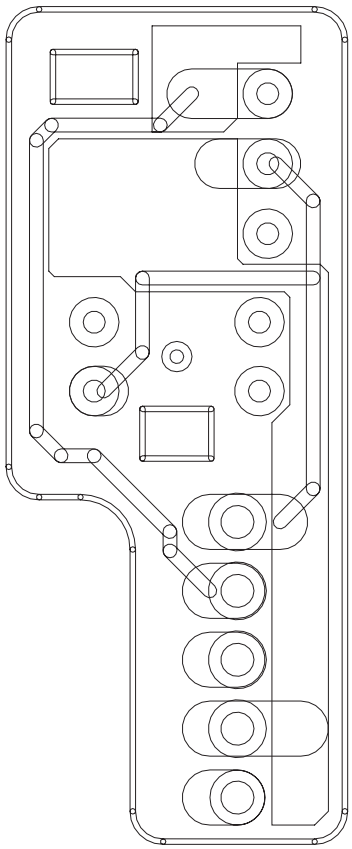


REMOCON/IR PWB

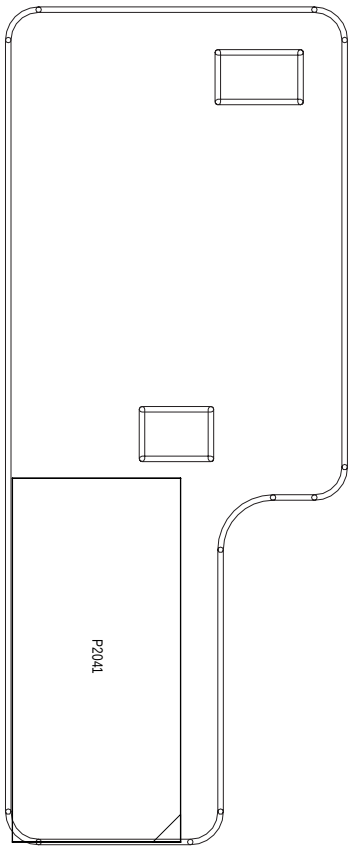
Component Side SIDE A



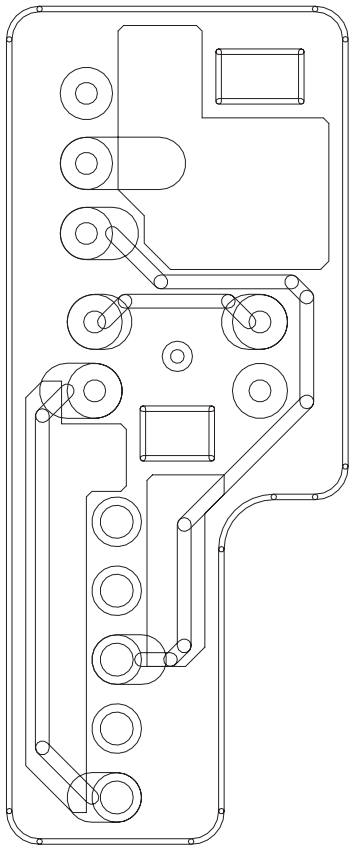
Wiring Side SIDE A



Component Side SIDE B

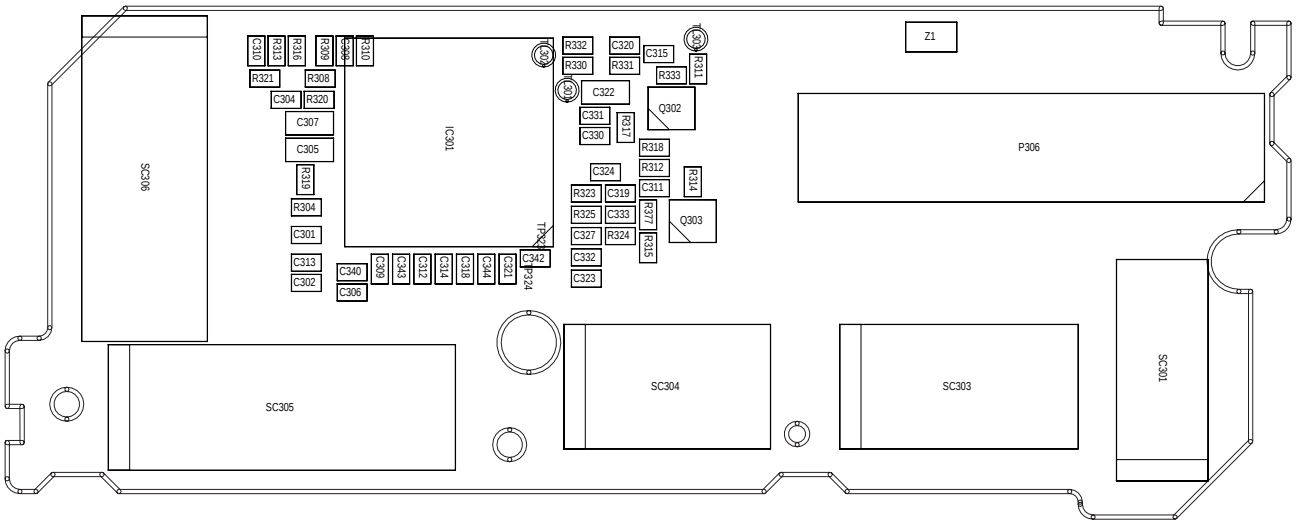


Wiring Side SIDE B

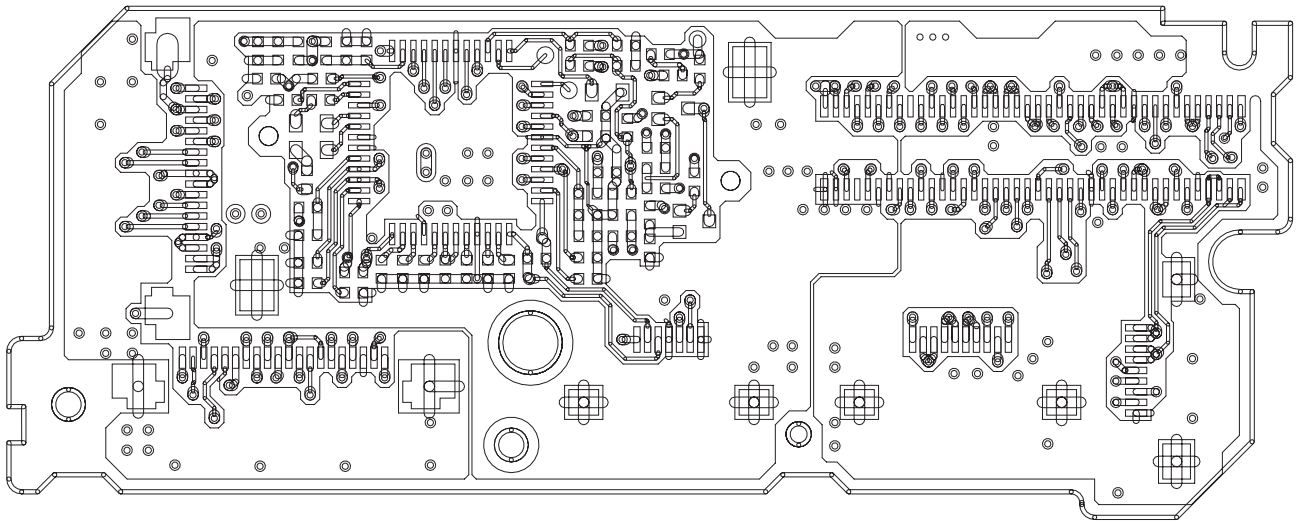


HEAD AMP PWB

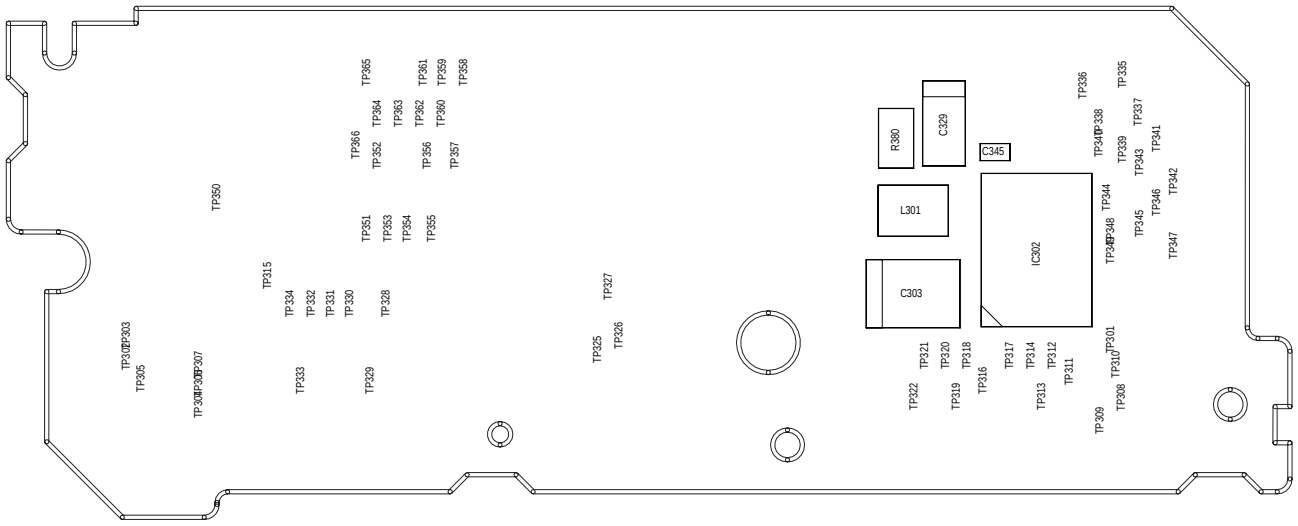
Component Side SIDE A



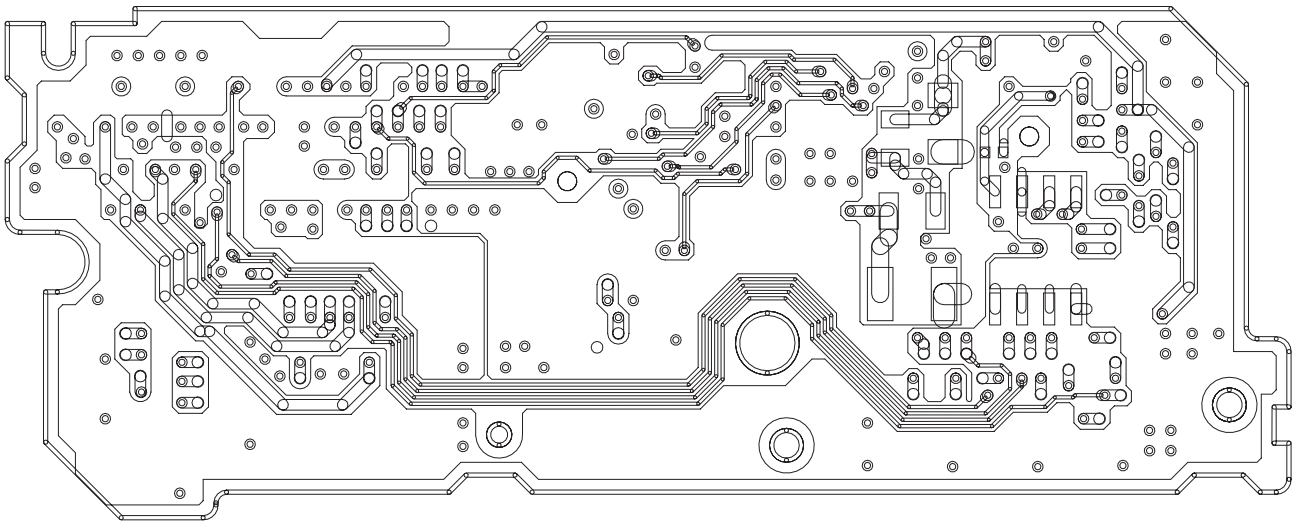
Wiring Side SIDE A



Component Side SIDE B

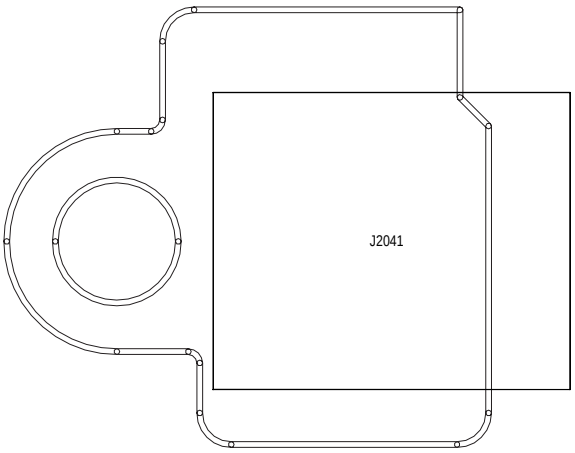


Wiring Side SIDE B

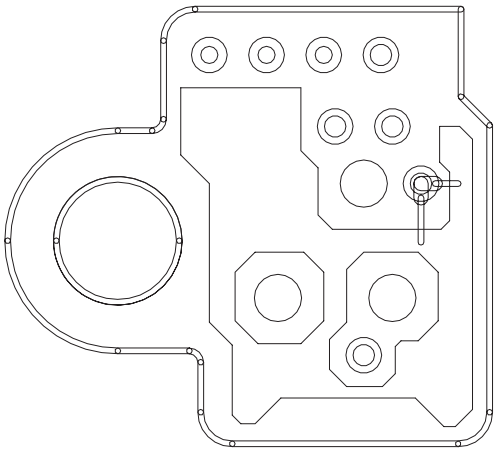


ZOOM-MIC JACK PWB

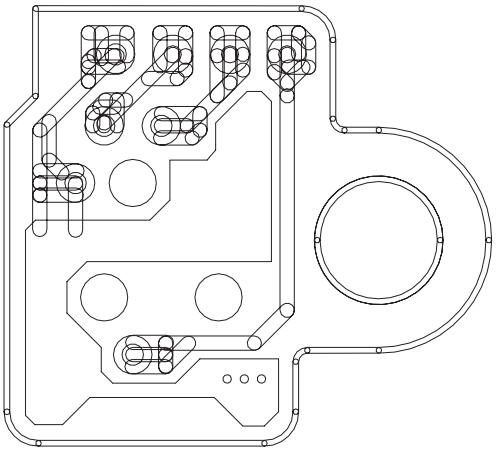
Component Side SIDE A



Wiring Side SIDE A



Wiring Side SIDE B



16. REPLACEMENT PARTS LIST/ EXPLODED VIEWS

ELECTRICAL PARTS LIST

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

" HOW TO ORDER REPLACEMENT PARTS "

★MARK : SPARE PARTS-DELIVERY SECTION:ALL JAPAN

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**
5. PRICE CODE

⚠ MARK: SAFETY RELATED PARTS

PWB ASSEMBLY IS NOT REPLACEMENT ITEM

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES *(NOT REPLACEMENT ITEM)*

	DUNTK3044PM05	MAIN PWB Unit (VL-WD450S) —
	DUNTK3044PM06	MAIN PWB Unit (VL-WD450H) —
	DUNTK3044PM07	MAIN PWB Unit (VL-WD450E/EW/EX) —
	DUNTK3044PM08	MAIN PWB Unit (VL-WD250S) —
	DUNTK3044PM10	MAIN PWB Unit (VL-WD250E/EW/EX) —
	DUNTK3044PM12	MAIN PWB Unit (VL-WD250H) —
	DUNTK3045PM01	SUB PWB Unit —
	DUNTK3046PM01	CCD PWB Unit (VL-WD250S/H/450S/H) —
	DUNTK3046PM02	CCD PWB Unit (VL-WD250E/EW/EX/ WD450E/EW/EX) —
	DUNTK3071QA01	POWER PWB Unit —
	DUNTK3048QA02	LCD PWB Unit —
	DUNTK3049PM03	JOINT PWB Unit (VL-WD250S/H/E/EW/EX) —
	DUNTK3049PM04	JOINT PWB Unit (VL-WD450S/H/E/EW/EX) —
	DUNTK3050PM00	REMOCON/IR PWB Unit (VL-WD450S/H/E/EW/EX) —
	DUNTK3050PM01	REMOCON/IR PWB Unit (VL-WD250S/H/E/EW/EX) —
	DUNTK3051PM01	DV/PC CONNECTION PWB Unit —
	DUNTK3052PM00	OPERATION PWB Unit —
	DUNTK3053PM01	AVS DC JACK PWB Unit —
	DUNTK3054PM00	ZOOM-MIC JACK Unit —
	DUNTK3056QA01	HEAD AMP PWB Unit —
	DUNTK3063PM00	BATTERY TERMINAL PWB Unit —

TUNER AND ASSEMBLY UNIT

	RUNTK0397TAZZ	V/F FPC Unit —

Ref. No.	Part No.	★	Description	Code

DUNTK3044PM05(VL-WD450S)
DUNTK3044PM06(VL-WD450H)
DUNTK3044PM07(VL-WD450E/EW/EX)
DUNTK3044PM08(VL-WD250S)
DUNTK3044PM10(VL-WD250E/EW/EX)
DUNTK3044PM12(VL-WD250H)
MAIN PWB UNIT

INTEGRATED CIRCUITS

IC21	VHiUPD16510-1	UPD16510, V-Driver	AR
IC22	VHiLR38650/-1Q	LR38650, Timing Generator	AQ
IC101	VHiVSP2210Y-1∗	VSP2210Y, CDA. A/D	AQ
IC201	RH-iX3455CEZZ	IX3455CE, 16M-SDRAM	AZ
IC202	RH-iX0850TAZZQ	IX0850TA, Digital Signal Process	BC
IC551	VHiUPD16835-1	UPD16835, Lens Driver	AM
IC552	VHiNJM2902V-1	NJM2902V, Op-Amp	AD
IC601	VHiBH7761KV-1	BH7761KV, Audio I/O	AS
IC701	RH-iX0881TAZZQ	IX0881TA, Mecha/System Micon	BB
IC702	VHiRS5C313/-1	RS5C313, Timer	AL
IC703	VHiBR24C08F-1	BR24C08F, E^2PROM	AF
IC704	VHiNJM2143R-1	NJM2143R, Servo Error Amp	AE
IC705	RH-iX0855TAZZ∗	IX0855TA, Character Generator	AL
IC706	VHiSN2G04CT-1	SN2G04CT, Inverter	AE
IC791	VHiS8423YF/-1	S8423YF, Battery Backup/ Sys 3V Regulator	AG
IC1401	VHiNJM2538B-1	NJM2538B, Video Out	AM
IC1431	VHiNJM2535V-1	NJM2535V, Video In SW	AE
IC1701	VHiLB11990W-1	LB11990W, Motor Driver	AR
IC1900	VHiTA75S01F-1	TA75S01F, Lamp Current Detector	AD
IC1901	VHiLV4053AT-1	LV4053AT	AE
IC2800	VHiMM1323XV-1	MM1323XV, LCD Interface	AN
IC3401	VHiBH7277KV-1	BH7277KV, EQ/PLL IC	AX
IC3402	VHiTLC2940/-1	TLC2940, VCO IC	AM
IC3403	VHiTCSZ04U/-1	TCSZ04U, Inv IC	AE
IC3404	VHiADC08351-1	ADC08351, A/D Conv IC	AN
IC3405	VHiSN2G53CT-1	SN2G53CT, SW IC	AE
IC3701	RH-iX0884TAZZQ	IX0884TA, Camera/Card Micon Computer	BD
IC3702	RH-iX3455CEZZ	IX3455CE, 16M-SDRAM	AZ
IC3703	VHiMB8346BV-1	MB8346BV, D/A Converter	AN
IC4401	RH-iX0875TAZZQ	IX0875TA, Digital ADC/DAC Decoder/Encoder	BD
IC4461	VHiSN2G53CT-1	SN2G53CT, VCTL SW	AE
IC4471	VHiTC7S04U/-1	TC7S04U, Inverter	AE
IC4472	VHiTC7S08U/-1	TC7S08U	AE
IC4701	VHiMB88344F-1	MB88344F, D/A Converter	AV
IC5001	VHiSP3220E+-1∗	SP3220E+	AM
IC6601	VHiBA7780KV-1	BA7780KV, Mic Amp	AT
IC8801	VHiSNT1G08C-1	SNT1G08C, SW	AD
IC8802	VHiAN2536FH-1Q	AN2536FH, VF RGB Decoder	AX

TRANSISTORS

Q201	VSFMMT619//-1	FMMT619	AE
Q551	VS2SC5383F/-1	2SC5383F	AB
Q552	VSRT1N141U/-1	RT1N141U	AB
Q601	VSFMG12////-1	FMG12	AD
Q602	VSRN4984///-1	RN4984	AC
Q604	VSHN2A01FU/-1	HN2A01FU	AC
Q605	VSRT1N441U/-1	RT1N441U	AB
Q606	VSRN4984///-1	RN4984	AC
Q608	VSFMG12////-1	FMG12	AD
Q701	VS2SA1989R/-1	2SA1989R	AB
Q702	VSRT1N144U/-1	RT1N144U	AB
Q705	VS2SA1989R/-1	2SA1989R	AB
Q1401	VSRT1N441U/-1	RT1N441U	AB
Q1405	VSRN1704///-1	RN1704	AC
Q1431	VSRN4986///-1	RN4986	AB
Q1434	VSHN2A01FU/-1	HN2A01FU	AC

Ref. No.	Part No.	★	Description	Code
Q1701	VSHN2C01FU/-1		HN2C01FU	AC
Q1800	VS3LN01S///-1		3LN01S	AC
Q1900	VSiMD16A///-1		IMD16A	AD
Q1901	VS2SC4213B/-1		2SC4213B	AC
Q1903	VSRN4984///-1		RN4984	AC
Q1904	VSiMD16A///-1		IMD16Ar (WD450S/H/E/EW/EX)	AD
Q1905	VSRN4984///-1		RN4984	AC
Q1906	VSRN4984///-1		RN4984	AC
Q1933	VSHN1C01FU/-1		HN1C01FU (WD450S/H/E/EW/EX)	AC
Q1934	VSHN1B04FU/-1		HN1B04FU (WD450S/H/E/EW/EX)	AC
Q3401	VS2SC4627CD-1		2SC4627CD	AB
Q3404	VS2SC4738Y/-1		2SC4738Y	AA
Q3405	VSRT1N441U/-1		RT1N441U	AB
Q3406	VSXP05534//-1		XP05534	AD
Q4431	VSRN4986///-1		RN4986	AB
Q4432	VSRN4986///-1		RN4986	AB
Q4433	VS2SA1989R/-1		2SA1989R	AB
Q4434	VS2SA1989R/-1		2SA1989R	AB
Q4440	VS2SA1989R/-1		2SA1989R	AB
Q4441	VS2SA1989R/-1		2SA1989R	AB
Q4442	VS2SA1989R/-1		2SA1989R	AB
Q4461	VSHN2A01FU/-1		HN2A01FU	AC
Q4462	VS2SC5383F/-1		2SC5383F	AB
Q4471	VS2SC5383F/-1		2SC5383F	AB
Q4472	VS2SA1989R/-1		2SA1989R	AB
Q4481	VSHN1B04FU/-1		HN1B04FU	AC
Q4482	VSHN1B04FU/-1		HN1B04FU	AC
Q6604	VSRN4986///-1		RN4986	AB
Q8801	VSHN1B04FU/-1		HN1B04FU	AC
DIODES				
D551	VHDMC2852//-1		MC2852	AB
D4451	VHDKV1812K/-1		KV1812K	AD
D4452	VHDKV1812K/-1		KV1812K	AD
D7800	VHDHVC359TR-1		HVC359TR	AD
PACKAGED CIRCUITS				
TH3401	VHHT1682J44-1		Thermistor	AC
X21	RCRSZ0085TAZZ∗		Crystal, CRSZ0085TA	AP
X701	RCRSC0183TAZZ		Crystal, CRSC0183TA	AH
X702	RCRSC0032TAZZ		Crystal, CRSC0032TA	AG
X4451	RCRSC0167TAZZ		Crystal, CRSC0167TA	AM
COILS AND TRANSFORMERS				
FL3401	RCiLF0408TAZZ		Coil, CiLF0408TA	AG
FL3402	RCiLF0408TAZZ		Coil, CiLF0408TA	AG
FL3403	RCiLF0409TAZZ		Coil, CiLF0409TA	AG
FL3701	RFiLZ0003TAZZ∗		Filter, FiLZ0003TA	AD
L21	VPD9M100KR86N		Peaking, 10µH	AC
L101	VPD9M100KR86N		Peaking, 10µH	AC
L551	VPD9M100KR86N		Peaking, 10µH	AC
L601	VPD9M470K4R1N		Peaking, 47µH	AC
L603	VPD9M100KR86N		Peaking, 10µH	AC
L701	VPMAN100MR50N		Peaking, 10µH	AC
L1402	VPBWM470K2R6N		Peaking, 47µH	AC
L1404	VPD9M470K4R1N		Peaking, 47µH	AC
L1431	VPD9M470K4R1N		Peaking, 47µH	AC
L1701	VPMAN100MR50N		Peaking, 10µH	AC
L1702	VPD9M4R7MR53N∗		Peaking, 4.7µH	AB
L2800	VPM6N470NR90N∗		Peaking, 47µH	AC
L2801	VPD9M470K4R1N		Peaking, 47µH	AC
L3401	RCiLP0276TAZZ		Coil, CiLP0276TA	AC
L3402	VPD9M4R7MR53N∗		Peaking, 4.7µH	AB
L3404	VPD9M4R7MR53N∗		Peaking, 4.7µH	AB
L3405	VPD9M4R7MR53N∗		Peaking, 4.7µH	AB
L3701	VPMAN4R7MR37N		Peaking, 4.7µH	AC
L4401	VPD9M100KR86N		Peaking, 10µH	AC
L4402	VPMAN100MR50N		Peaking, 10µH	AC
L4451	RCiLP0275TAZZ		Coil, CiLP0275TA	AD
L4461	VPBWM470K2R6N		Peaking, 47µH	AC
L4481	VPD9M470K4R1N		Peaking, 47µH	AC
L5001	VPMAN100MR50N		Peaking, 10µH	AC
L6601	VPD9M470K4R1N		Peaking, 47µH	AC
L7800	VPD9M470K4R1N		Peaking, 47µH	AC
L7801	VPD9M680J8R6N		Peaking, 68µH	AC
L8800	VPMAN100MR50N		Peaking, 10µH	AC
L8801	VPMAN100MR50N		Peaking, 10µH	AC
L8804	VPMAN100MR50N		Peaking, 10µH	AC
L8805	VPD9M470K4R1N		Peaking, 47µH	AC

CAPACITORS

C21	VCSATE1CJ226M	22	16V	Tantalum	AE
C22	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C23	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C24	VCSATJ1VJ685M	6.8	35V	Tantalum	AE
C25	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C26	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C27	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C28	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C29	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C30	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C31	VCSATA1AJ106M	10	10V	Tantalum	AC
C32	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C35	VCSATA0JJ156M	15	6.3V	Tantalum	AC
C36	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C37	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C101	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C102	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C103	VCKYCZ1HB471K	470p	50V	Ceramic	AB
C104	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C105	VCCCCZ1HH390J	39p	50V	Ceramic	AB
C106	VCKYCZ1HB471K	470p	50V	Ceramic	AB
C109	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C110	VCKYCY0JB105K	1	6.3V	Ceramic	AC
C111	VCKYCY0JB105K	1	6.3V	Ceramic	AC
C112	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C113	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C114	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C115	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C116	VCSATA0JJ156M	15	6.3V	Tantalum	AC
C117	VCSATA0JJ156M	15	6.3V	Tantalum	AC
C118	VCKYCY0JB105K	1	6.3V	Ceramic	AC
C119	VCCCCZ1HH100D	10p	50V	Ceramic	AB
C120	VCCCCZ1HH100D	10p	50V	Ceramic	AB
C201	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C202	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C203	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C204	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C205	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C206	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C207	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C208	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C210	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C211	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C212	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C213	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C214	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C215	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C217	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C218	VCKYCZ1CB103K	0.01	16V	Ceramic	AB
C219	VCKYCY0JB105K	1	6.3V	Ceramic	AC
C220	VCSATE0JJ476M	47	6.3V	Tantalum	AF
C551	VCSATA1AJ106M	10	10V	Tantalum	AC
C552	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C553	VCCCCZ1HH330J	33p	50V	Ceramic	AB
C554	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C555	VCCCCZ1HH101J	100p	50V	Ceramic	AB
C556	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C557	VCCCCZ1HH101J	100p	50V	Ceramic	AB
C558	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C559	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C560	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C561	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C562	VCSATA0JJ106M	10	6.3V	Tantalum	AD
C563	VCSATA1AJ106M	10	10V	Tantalum	AC
C564	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C565	VCKYCY1AB224K	0.22	10V	Ceramic	AB

Ref. No.	Part No.	★		Description		Code
C567	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C568	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C569	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C570	VCCCCZ1HH151J		150p	50V	Ceramic	AB
C571	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C572	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C603	VCKYTV1CF225Z		2.2	16V	Ceramic	AC
C605	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C606	VCKYCY0JB105K		1	6.3V	Ceramic	AC
C616	VCKYTV1CF225Z		2.2	16V	Ceramic	AC
C617	VCKYCY0JB105K		1	6.3V	Ceramic	AC
C623	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C624	VCKYCZ1EB472K		4700p	25V	Ceramic	AB
C625	VCSATE0JJ476M		47	6.3V	Tantalum	AF
C628	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C629	VCKYCZ1EB472K		4700p	25V	Ceramic	AB
C631	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C632	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C633	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C636	VCEAPJ0JW476M		47	6.3V	Electrolytic	AD
C637	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C638	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C641	VCEAPJ0JW476M		47	6.3V	Electrolytic	AD
C645	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C646	VCKYCY1HB103K		0.01	50V	Ceramic	AA
C651	VCKYCZ1AB104K		0.1	10V	Ceramic	AB
C685	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C686	VCSATA0JJ226M		22	6.3V	Tantalum	AD
C690	VCKYCZ1AB104K		0.1	10V	Ceramic	AB
C702	VCCCCZ1HH221J		220p	50V	Ceramic	AB
C703	VCCCCZ1HH470J		47p	50V	Ceramic	AB
C704	VCCCCZ1HH221J		220p	50V	Ceramic	AB
C705	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C707	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C708	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C709	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C710	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C711	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C712	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C713	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C714	VCKYCZ1EB682K		6800p	25V	Ceramic	AB
C715	VCKYCZ1EB682K		6800p	25V	Ceramic	AB
C717	VCCCCZ1HH270J		27p	50V	Ceramic	AB
C718	VCCCCZ1HH270J		27p	50V	Ceramic	AB
C719	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C720	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C721	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C722	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C723	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C724	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C725	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C726	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C727	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C728	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C729	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C730	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C731	VCKYTV1AB105K		1	10V	Ceramic	AD
C791	RC-KZ1025CEZZ		1	10V	Ceramic	AB
C792	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C793	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C794	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C795	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1402	VCSATE1AJ476M		47	10V	Tantalum	AD
C1404	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1405	VCSATA0JJ336M		33	6.3V	Tantalum	AD
C1406	VCSATE0JJ107M		100	6.3V	Tantalum	AE
C1407	VCSATA0JJ156M		15	6.3V	Tantalum	AC
C1408	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C1409	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1410	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1411	VCSATE0JJ107M		100	6.3V	Tantalum	AE
C1412	VCSATA0JJ156M		15	6.3V	Tantalum	AC
C1413	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C1414	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1415	VCEAPJ0JW476M		47	6.3V	Electrolytic	AD

Ref. No.	Part No.	★		Description		Code
C1416	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1417	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1418	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1431	VCSATE1AJ476M		47	10V	Tantalum	AD
C1438	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1439	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C1440	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C1701	VCKYCZ1CB223K		0.022	16V	Ceramic	AC
C1702	VCKYCZ1CB223K		0.022	16V	Ceramic	AC
C1703	VCKYTV1AB105K		1	10V	Ceramic	AD
C1704	RC-KZ1025CEZZ		1	10V	Ceramic	AB
C1705	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C1706	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1707	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1708	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C1709	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1710	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1711	VCKYTV1AB105K		1	10V	Ceramic	AD
C1712	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1713	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C1714	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1715	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C1716	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C1717	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1718	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1719	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C1720	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1721	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C1722	VCKYCY1CB473K		0.047	16V	Ceramic	AA
C1723	VCKYCZ1EB472K		4700p	25V	Ceramic	AB
C1724	RC-KZ1025CEZZ		1	10V	Ceramic	AB
C1725	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1726	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1727	VCCCCZ1HH101J		100p	50V	Ceramic	AB
C1728	RC-KZ1025CEZZ		1	10V	Ceramic	AB
C1800	VCKYCZ1HF103Z		0.01	50V	Ceramic	AB
C1801	VCKYCY1EB104K	∗	0.1	25V	Ceramic	AB
C1810	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1900	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1906	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1907	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C1908	VCKYCY1EB104K	∗	0.1	25V	Ceramic	AB
C1910	VCKYCY0JB105K		1 (WD450S/H/E/EW/EX)	6.3V	Ceramic	AC
C2800	VCKYTV1CB105K		1	16V	Ceramic	AC
C2801	VCSATA1AJ106M		10	10V	Tantalum	AC
C2802	VCKYTV1AB105K		1	10V	Ceramic	AD
C2803	VCKYTV1AB105K		1	10V	Ceramic	AD
C2804	VCKYTV1AB105K		1	10V	Ceramic	AD
C3401	VCCCCZ1HH220J		22p	50V	Ceramic	AB
C3402	VCCCCZ1HH120J		12p	50V	Ceramic	AB
C3403	VCCCCZ1HH390J		39p	50V	Ceramic	AB
C3405	VCCCCZ1HH680J		68p	50V	Ceramic	AB
C3406	VCKYCY0JB105K		1	6.3V	Ceramic	AC
C3408	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3409	VCKYCZ1HB471K		470p	50V	Ceramic	AB
C3410	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3411	VCKYCZ1HB471K		470p	50V	Ceramic	AB
C3412	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3413	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3414	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3415	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3416	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3417	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3418	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3419	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3421	VCCCCZ1HH121J		120p	50V	Ceramic	AB
C3423	VCCCCZ1HH121J		120p	50V	Ceramic	AB
C3424	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C3425	VCSATA0JJ336M		33	6.3V	Tantalum	AD
C3426	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C3428	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C3429	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C3430	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C3431	VCKYCZ1CB103K		0.01	16V	Ceramic	AB

Ref. No.	Part No.	★	Description	Code
C3432	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3433	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3434	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3436	VCSATA0JJ336M		33 6.3V Tantalum	AD
C3442	VCCCCZ1HH220J		22p 50V Ceramic	AB
C3443	VCCCCZ1HH470J		47p 50V Ceramic	AB
C3444	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3452	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3454	VCSATA0JJ106M		10 6.3V Tantalum	AD
C3455	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3456	VCSATA0JJ106M		10 6.3V Tantalum	AD
C3457	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3458	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3462	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3467	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3470	VCCCCZ1HH5R0C		5p 50V Ceramic	AC
C3471	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3473	VCEAPJ0JW226M		22 6.3V Electrolytic	AD
C3474	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3475	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3476	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3477	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3479	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3481	VCCCCZ1HH100D		10p 50V Ceramic	AB
C3701	VCKYTV1AB105K		1 10V Ceramic	AD
C3702	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3703	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3704	VCKYCZ1HB102K		1000p 50V Ceramic (WD450S/H/E/EW/EX)	AB
C3705	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C3708	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3709	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C3710	VCSATA0JJ106M		10 6.3V Tantalum	AD
C3711	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3712	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3713	VCSATA1AJ106M		10 10V Tantalum	AC
C3714	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4401	RC-KZ0083TAZZ		2.2 10V Ceramic	AD
C4402	RC-KZ0083TAZZ		2.2 10V Ceramic	AD
C4403	RC-KZ0083TAZZ		2.2 10V Ceramic	AD
C4404	RC-KZ0083TAZZ		2.2 10V Ceramic	AD
C4405	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4406	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4407	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4408	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4409	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4410	VCKYCY0JB105K		1 6.3V Ceramic	AC
C4411	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4412	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4413	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4417	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4419	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4420	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4421	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4422	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4423	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4424	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4426	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4427	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4430	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4431	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4432	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4435	VCSATA0JJ106M		10 6.3V Tantalum	AD
C4436	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4440	VCSATA0JJ106M		10 6.3V Tantalum	AD
C4441	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4451	VCCCCZ1HH330J		33p 50V Ceramic	AB
C4454	VCCCCZ1HH330J		33p 50V Ceramic	AB
C4461	VCSATA1AJ475M		4.7 10V Tantalum	AC
C4462	VCKYCZ1EB682K		6800p 25V Ceramic	AB
C4463	VCKYCZ1EB682K		6800p 25V Ceramic	AB
C4464	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4465	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C4466	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4472	VCKYCZ1CB103K		0.01 16V Ceramic	AB

Ref. No.	Part No.	★	Description	Code
C4481	VCSATA0JJ106M		10 6.3V Tantalum	AD
C4482	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C4483	VCSATA1AJ475M		4.7 10V Tantalum	AC
C4485	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C4701	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C4702	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5001	VCSATA0JJ106M		10 6.3V Tantalum	AD
C5002	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5003	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5004	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5005	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5006	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C5007	VCKYCY1HB103K		0.01 50V Ceramic	AA
C5008	VCKYCY1HB103K		0.01 50V Ceramic	AA
C5009	VCKYCY1HB103K		0.01 50V Ceramic	AA
C6601	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C6602	VCCCCZ1HH101J		100p 50V Ceramic	AB
C6603	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C6604	VCSATA1AJ106M		10 10V Tantalum	AC
C6605	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6606	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6607	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C6610	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6611	VCKYCY1CB273K		0.027 16V Ceramic	AA
C6612	VCKYCY1HB682K		6800p 50V Ceramic	AA
C6613	VCKYCZ1HB392K		3900p 50V Ceramic	AA
C6614	VCKYCY1CB273K		0.027 16V Ceramic	AA
C6618	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C6619	VCKYCZ1CB123K		0.012 16V Ceramic	AB
C6620	VCKYCZ1HB471K		470p 50V Ceramic	AB
C6621	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C6622	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6623	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C6624	VCCCCZ1HH101J		100p 50V Ceramic	AB
C6626	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C6628	VCSATA1AJ106M		10 10V Tantalum	AC
C6629	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6630	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6631	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C6632	VCKYCY1CB273K		0.027 16V Ceramic	AA
C6633	VCKYCY1CB273K		0.027 16V Ceramic	AA
C6634	VCKYCZ1HB392K		3900p 50V Ceramic	AA
C6635	VCKYCY1HB682K		6800p 50V Ceramic	AA
C6639	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C6640	VCKYCZ1CB123K		0.012 16V Ceramic	AB
C6641	VCKYCZ1HB471K		470p 50V Ceramic	AB
C6642	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C6643	VCSATA1AJ106M		10 10V Tantalum	AC
C6644	VCKYCY0JF105Z		1 6.3V Ceramic	AB
C6645	VCKYCY0JF105Z		1 6.3V Ceramic	AB
C6646	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C6647	VCKYCY0JF105Z		1 6.3V Ceramic	AB
C6648	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C7800	RC-KZ0083TAZZ		2.2 10V Ceramic	AD
C7802	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7804	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7805	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7806	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7807	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7813	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7815	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C7816	VCCCCZ1HH560J		56p 50V Ceramic	AB
C7837	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C7842	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C7843	RC-KZ0101TAZZ		3.3 6.3V Ceramic	AD
C7844	VCKYCZ1HB332K		3300p 50V Ceramic	AA
C8800	VCKYCY0JB105K		1 6.3V Ceramic	AC
C8801	VCSATA0JJ336M		33 6.3V Tantalum	AD
C8802	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8804	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8805	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C8806	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8808	VCKYTV1CB105K		1 16V Ceramic	AC
C8809	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C8810	VCCCCZ1HH330J		33p 50V Ceramic	AB

Ref. No.	Part No.	★		Description		Code
C8811	VCCCCZ1HH330J		33p	50V	Ceramic	AB
C8812	VCCCCZ1HH330J		33p	50V	Ceramic	AB
C8815	VCKYTV1AB105K		1	10V	Ceramic	AD
C8816	VCKYTV1AB105K		1	10V	Ceramic	AD
C8817	VCKYTV1AB105K		1	10V	Ceramic	AD
C8818	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C8823	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C8828	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C8829	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C8831	RC-KZ0055TAZZ		3.3	16V	Ceramic	AD
C8832	VCKYTV1CB105K		1	16V	Ceramic	AC
C8860	VCKYCY0JB105K		1	6.3V	Ceramic	AC
C8861	VCSATA1DJ475M		4.7	20V	Tantalum	AC
C8862	VCKYCZ1HB681K		680p	50V	Ceramic	AB
C8863	VCSATA1AJ106M		10	10V	Tantalum	AC
C8864	VCKYCZ1HB152K		1500p	50V	Ceramic	AB
C8865	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD

RESISTORS

R21	VRS-CZ1JF271J		270	1/16W	Metal Oxide	AA
R22	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R24	VRS-CZ1JF220J		22	1/16W	Metal Oxide	AA
R26	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R27	VRS-CZ1JF330J		33	1/16W	Metal Oxide	AA
R28	VRS-CZ1JF330J		33	1/16W	Metal Oxide	AA
R29	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R30	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R33	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R34	VRS-CZ1JF220J		22	1/16W	Metal Oxide	AA
R36	VRS-CZ1JF220J		22	1/16W	Metal Oxide	AA
R101	VRS-CZ1JF330J		33	1/16W	Metal Oxide	AA
R103	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R104	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R105	VRS-CY1JF000J		0	1/16W	Metal Oxide	AA
R201	VRS-CZ1JF100J		10	1/16W	Metal Oxide	AA
R202	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R203	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R204	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R205	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R206	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R207	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R209	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R210	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R211	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R212	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R213	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R214	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R215	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R216	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R217	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R218	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R219	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R220	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R221	VRS-CZ1JF362J		3.6k	1/16W	Metal Oxide	AA
R222	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R246	VRS-CY1JF4R7J		4.7	1/16W	Metal Oxide	AA
R551	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R552	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R553	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R554	VRS-CY1JF5R6J		5.6	1/16W	Metal Oxide	AA
R555	VRS-CY1JF5R6J		5.6	1/16W	Metal Oxide	AA
R556	VRS-CZ1JF180J		18	1/16W	Metal Oxide	AA
R557	VRS-CY1JF5R6J		5.6	1/16W	Metal Oxide	AA
R558	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R559	VRS-CY1JF5R6J		5.6	1/16W	Metal Oxide	AA
R560	VRS-CZ1JF180J		18	1/16W	Metal Oxide	AA
R561	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R562	VRS-CZ1JF622D		6.2k	1/16W	Metal Oxide	AA
R563	VRS-CZ1JF104D		100k	1/16W	Metal Oxide	AB
R564	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R565	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R566	VRS-CZ1JF153D		15k	1/16W	Metal Oxide	AB
R567	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R568	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R569	VRS-CZ1JF154J		150k	1/16W	Metal Oxide	AA
R570	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R571	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R572	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R573	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R574	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R575	VRS-CZ1JF474J		470k	1/16W	Metal Oxide	AA
R576	VRS-CZ1JF122J		1.2k	1/16W	Metal Oxide	AA
R577	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R578	VRS-CZ1JF181J		180	1/16W	Metal Oxide	AA
R579	VRS-CZ1JF181J		180	1/16W	Metal Oxide	AA
R580	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R581	VRS-CZ1JF474J		470k	1/16W	Metal Oxide	AA
R582	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R583	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R603	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R609	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R610	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R613	VRS-CZ1JF683J		68k	1/16W	Metal Oxide	AA
R616	VRS-CZ1JF683J		68k	1/16W	Metal Oxide	AA
R617	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R618	VRS-CZ1JF222J		2.2k	1/16W	Metal Oxide	AA
R621	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R631	VRS-CZ1JF273J		27k	1/16W	Metal Oxide	AA
R635	VRS-CZ1JF123J		12k	1/16W	Metal Oxide	AA
R636	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R638	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R639	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R640	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R641	VRS-CZ1JF562J		5.6k	1/16W	Metal Oxide	AA
R651	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R654	VRS-CZ1JF273J		27k	1/16W	Metal Oxide	AA
R656	VRS-CZ1JF822J		8.2k	1/16W	Metal Oxide	AA
R660	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R661	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R662	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R663	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R670	VRS-CZ1JF100J		10	1/16W	Metal Oxide	AA
R671	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R672	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R685	VRS-CZ1JF563J		56k	1/16W	Metal Oxide	AA
R686	VRS-CZ1JF563J		56k	1/16W	Metal Oxide	AA
R687	VRS-CZ1JF121J		120	1/16W	Metal Oxide	AA
R688	VRS-CZ1JF121J		120	1/16W	Metal Oxide	AA
R701	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R702	VRS-CZ1JF683D		68k	1/16W	Metal Oxide	AB
R704	VRS-CZ1JF683D		68k	1/16W	Metal Oxide	AB
R706	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R707	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R709	VRS-CZ1JF272J		2.7k	1/16W	Metal Oxide	AA
R710	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R711	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R712	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R713	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R714	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R715	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R716	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R717	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R718	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R719	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R720	VRS-CZ1JF332J		3.3k	1/16W	Metal Oxide	AA
R721	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R722	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R723	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R725	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R726	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R727	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R728	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R729	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R730	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R731	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R732	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R733	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R734	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R735	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R736	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★		Description	Code
R737	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R738	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R739	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R740	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R741	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R742	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R743	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R744	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R745	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R746	VRS-CZ1JF103D		10k	1/16W Metal Oxide	AB
R747	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R748	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R750	VRS-CZ1JF224J		220k	1/16W Metal Oxide	AA
R751	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R752	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R753	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R754	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R755	VRS-CZ1JF224J		220k	1/16W Metal Oxide	AA
R756	VRS-CZ1JF683J		68k	1/16W Metal Oxide	AA
R757	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R759	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R760	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R761	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R762	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R763	VRS-CZ1JF474D		470k	1/16W Metal Oxide	AA
R764	VRS-CZ1JF823D		82k	1/16W Metal Oxide	AB
R765	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R766	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R767	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R768	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R769	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R770	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R771	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R772	VRS-CZ1JF474J		470k	1/16W Metal Oxide	AA
R773	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R791	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R792	VRS-CZ1JF122J		1.2k	1/16W Metal Oxide	AA
R793	VRS-CZ1JF334J		330k	1/16W Metal Oxide	AA
R1401	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1402	VRS-CZ1JF470J		47	1/16W Metal Oxide	AA
R1403	VRS-CZ1JF470J		47	1/16W Metal Oxide	AA
R1404	VRS-CZ1JF270J		27	1/16W Metal Oxide	AA
R1408	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R1413	VRS-CZ1JF470J		47	1/16W Metal Oxide	AA
R1414	VRS-CZ1JF270J		27	1/16W Metal Oxide	AA
R1415	VRS-CZ1JF225J		2.2M	1/16W Metal Oxide	AA
R1419	VRS-CZ1JF270J		27	1/16W Metal Oxide	AA
R1431	VRS-CZ1JF122J		1.2k	1/16W Metal Oxide	AA
R1438	VRS-CZ1JF122J		1.2k	1/16W Metal Oxide	AA
R1439	VRS-CZ1JF272J		2.7k	1/16W Metal Oxide	AA
R1440	VRS-CZ1JF561J		560	1/16W Metal Oxide	AA
R1441	VRS-CZ1JF561J		560	1/16W Metal Oxide	AA
R1442	VRS-CZ1JF750J		75	1/16W Metal Oxide	AA
R1451	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R1452	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R1453	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R1454	VRS-CZ1JF123J		12k	1/16W Metal Oxide	AA
R1462	VRS-CZ1JF104D		100k	1/16W Metal Oxide	AB
R1704	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R1705	VRS-CZ1JF154J		150k	1/16W Metal Oxide	AA
R1706	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R1707	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R1708	VRS-CZ1JF1R0J		1	1/16W Metal Oxide	AA
R1709	VRS-CZ1JF1R0J		1	1/16W Metal Oxide	AA
R1710	VRS-CZ1JF1R0J		1	1/16W Metal Oxide	AA
R1711	VRS-CZ1JF1R0J		1	1/16W Metal Oxide	AA
R1712	VRS-CZ1JF105J		1M	1/16W Metal Oxide	AA
R1713	VRS-CZ1JF331J		330	1/16W Metal Oxide	AA
R1714	VRS-CZ1JF621J		620	1/16W Metal Oxide	AA
R1715	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R1716	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R1720	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1721	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1722	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R1723	VRS-CZ1JF330J		33	1/16W Metal Oxide	AA

Ref. No.	Part No.	★		Description	Code
R1724	VRS-CZ1JF330J		33	1/16W Metal Oxide	AA
R1725	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R1726	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R1727	VRS-CZ1JF822J		8.2k	1/16W Metal Oxide	AA
R1728	VRS-CZ1JF822J		8.2k	1/16W Metal Oxide	AA
R1729	VRS-CZ1JF182J		1.8k	1/16W Metal Oxide	AA
R1730	VRS-CZ1JF182J		1.8k	1/16W Metal Oxide	AA
R1731	VRS-CZ1JF182J		1.8k	1/16W Metal Oxide	AA
R1732	VRS-CZ1JF182J		1.8k	1/16W Metal Oxide	AA
R1733	VRS-CZ1JF100J		10	1/16W Metal Oxide	AA
R1734	VRS-CZ1JF100J		10	1/16W Metal Oxide	AA
R1800	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R1801	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1802	VRS-CZ1JF683J		68k	1/16W Metal Oxide	AA
R1803	VRS-CZ1JF823J		82k	1/16W Metal Oxide	AA
R1804	VRS-CZ1JF274J		270k	1/16W Metal Oxide	AA
R1809	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1819	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R1901	VRS-CZ1JF224D		220k	1/16W Metal Oxide	AA
R1902	VRS-CZ1JF104D		100k	1/16W Metal Oxide	AB
R1903	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R1906	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1908	VRS-CY1JFR22J		0.22	1/16W Metal Oxide	AA
R1909	VRS-CZ1JF102D		1k	1/16W Metal Oxide	AA
R1910	VRS-CZ1JF153D		15k	1/16W Metal Oxide	AB
R1911	VRS-TV1JD560J		56	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R1912	VRS-TV1JD560J		56	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R1914	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1915	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1917	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1918	VRS-CZ1JF472D		4.7k	1/16W Metal Oxide	AB
R1919	VRS-CZ1JF273D		27k	1/16W Metal Oxide	AA
R1921	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1925	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1930	VRS-CZ1JF563J		56k	1/16W Metal Oxide	AA
R1931	VRS-CZ1JF473J		47k	1/16W Metal Oxide	AA
R1932	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R1933	VRS-CZ1JF473J		47k	1/16W Metal Oxide	AA
R1934	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R1935	VRS-CZ1JF334J		330k	1/16W Metal Oxide	AA
R1936	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R1950	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R1992	VRS-CZ1JF102J		1k	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R1993	VRS-CZ1JF473J		47k	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R1994	VRS-CZ1JF681D		680	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AB
R1996	VRS-CZ1JF182D		1.8k	1/16W Metal Oxide (WD450S/H/E/EW/EX)	AB
R2800	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R2801	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R2802	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R2803	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R2804	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R3401	VRS-CZ1JF181J		180	1/16W Metal Oxide	AA
R3402	VRS-CY1JF000J		0	1/16W Metal Oxide	AA
R3404	VRS-CZ1JF181J		180	1/16W Metal Oxide	AA
R3406	VRS-CZ1JF562J		5.6k	1/16W Metal Oxide	AA
R3407	VRS-CZ1JF101J		100	1/16W Metal Oxide	AA
R3409	VRS-CZ1JF121J		120	1/16W Metal Oxide	AA
R3410	VRS-CZ1JF151J		150	1/16W Metal Oxide	AA
R3411	VRS-CZ1JF391J		390	1/16W Metal Oxide	AA
R3412	VRS-CZ1JF221J		220	1/16W Metal Oxide	AA
R3413	VRS-CZ1JF391J		390	1/16W Metal Oxide	AA
R3414	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R3415	VRS-CZ1JF151J		150	1/16W Metal Oxide	AA
R3416	VRS-CZ1JF221J		220	1/16W Metal Oxide	AA
R3417	VRS-CZ1JF221J		220	1/16W Metal Oxide	AA
R3418	VRS-CZ1JF181J		180	1/16W Metal Oxide	AA
R3419	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R3420	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R3421	VRS-CZ1JF183J		18k	1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
R3422	VRS-CZ1JF151D		150 1/16W Metal Oxide	AA
R3423	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R3424	VRS-CZ1JF151J		150 1/16W Metal Oxide	AA
R3425	VRS-CZ1JF222D		2.2k 1/16W Metal Oxide	AA
R3427	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R3428	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R3429	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3430	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R3432	VRS-CZ1JF333D		33k 1/16W Metal Oxide	AB
R3434	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3435	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R3436	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R3437	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R3438	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3442	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3445	VRS-CZ1JF182D		1.8k 1/16W Metal Oxide	AB
R3446	VRS-CZ1JF103D		10k 1/16W Metal Oxide	AB
R3450	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3451	VRS-CZ1JF334J		330k 1/16W Metal Oxide	AA
R3452	VRS-CZ1JF820J		82 1/16W Metal Oxide	AA
R3453	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3454	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3457	VRS-CZ1JF820J		82 1/16W Metal Oxide	AA
R3462	VRS-CZ1JF271J		270 1/16W Metal Oxide	AA
R3463	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R3468	VRS-CZ1JF100J		10 1/16W Metal Oxide	AA
R3469	VRS-CZ1JF390J		39 1/16W Metal Oxide	AA
R3470	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3471	VRS-CZ1JF222J		2.2k 1/16W Metal Oxide	AA
R3472	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R3473	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R3478	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R3479	VRS-CZ1JF183J		18k 1/16W Metal Oxide	AA
R3480	VRS-CZ1JF681J		680 1/16W Metal Oxide	AA
R3481	VRS-CZ1JF680J		68 1/16W Metal Oxide	AB
R3482	VRS-CZ1JF562J		5.6k 1/16W Metal Oxide	AA
R3486	VRS-CZ1JF152D		1.5k 1/16W Metal Oxide	AB
R3487	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3488	VRS-CZ1JF681D		680 1/16W Metal Oxide	AB
R3489	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3490	VRS-CZ1JF392J		3.9k 1/16W Metal Oxide	AA
R3492	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3493	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R3494	VRS-CZ1JF182J		1.8k 1/16W Metal Oxide	AA
R3495	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R3496	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3499	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3707	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3708	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3709	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3710	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3711	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R3712	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R3713	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R3714	VRS-CZ1JF122J		1.2k 1/16W Metal Oxide	AA
R3715	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3718	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3719	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3720	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R3721	VRS-CZ1JF102J		1k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3722	VRS-CZ1JF104J		100k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3723	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3724	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R3726	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3727	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3728	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3730	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3731	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3732	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3735	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3736	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R3739	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3740	VRS-CZ1JF333J		33k 1/16W Metal Oxide	AA
R3741	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R3742	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3743	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3744	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3745	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3746	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3747	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3748	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3749	VRS-CZ1JF473J		47k 1/16W Metal Oxide (WD450S/H/E/EW/EX)	AA
R3750	VRS-CZ1JF103J		10k 1/16W Metal Oxide (WD250S/H/450S/H)	AA
R3751	VRS-CZ1JF103J		10k 1/16W Metal Oxide (WD250E/EW/EX/450E/EW/EX)	AA
R4401	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4402	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4403	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4404	VRS-CZ1JF151J		150 1/16W Metal Oxide	AA
R4405	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4406	VRS-CZ1JF151J		150 1/16W Metal Oxide	AA
R4407	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4408	VRS-CZ1JF221J		220 1/16W Metal Oxide	AA
R4409	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4410	VRS-CZ1JF121J		120 1/16W Metal Oxide	AA
R4411	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4412	VRS-CZ1JF121J		120 1/16W Metal Oxide	AA
R4413	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4414	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4415	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4416	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R4417	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R4418	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R4419	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R4420	VRS-CZ1JF393J		39k 1/16W Metal Oxide	AA
R4421	VRS-CZ1JF273J		27k 1/16W Metal Oxide	AA
R4422	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R4423	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R4424	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R4425	VRS-CZ1JF123J		12k 1/16W Metal Oxide	AA
R4426	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R4427	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R4428	VRS-CZ1JF153J		15k 1/16W Metal Oxide	AA
R4429	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R4430	VRS-CZ1JF823J		82k 1/16W Metal Oxide	AA
R4435	VRS-CZ1JF330J		33 1/16W Metal Oxide	AA
R4436	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R4437	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R4440	VRS-CZ1JF330J		33 1/16W Metal Oxide	AA
R4441	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R4442	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R4443	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R4450	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4451	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R4453	VRS-CZ1JF181J		180 1/16W Metal Oxide	AA
R4454	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R4456	VRS-CZ1JF151J		150 1/16W Metal Oxide	AA
R4460	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4461	VRS-CZ1JF123D		12k 1/16W Metal Oxide	AA
R4462	VRS-CZ1JF123D		12k 1/16W Metal Oxide	AA
R4463	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R4464	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R4465	VRS-CZ1JF273D		27k 1/16W Metal Oxide	AA
R4466	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R4467	VRS-CZ1JF302D		3k 1/16W Metal Oxide	AA

Ref. No.	Part No.	★		Description	Code
R4468	VRS-CZ1JF562D		5.6k	1/16W Metal Oxide	AB
R4469	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R4473	VRS-CZ1JF123J		12k	1/16W Metal Oxide	AA
R4474	VRS-CZ1JF183J		18k	1/16W Metal Oxide	AA
R4475	VRS-CZ1JF272J		2.7k	1/16W Metal Oxide	AA
R4477	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R4478	VRS-CZ1JF472J		4.7k	1/16W Metal Oxide	AA
R4485	VRS-CZ1JF474J		470k	1/16W Metal Oxide	AA
R4486	VRS-CZ1JF224J		220k	1/16W Metal Oxide	AA
R4487	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R4488	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R4494	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R4499	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5002	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R5003	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5004	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5005	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5006	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5007	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5008	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5009	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5010	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5011	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5012	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5013	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R5016	VRS-CY1JF000J		0	1/16W Metal Oxide	AA
R5017	VRS-CY1JF000J		0	1/16W Metal Oxide	AA
R5018	VRS-CY1JF000J		0	1/16W Metal Oxide	AA
R5801	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5802	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R5803	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R6602	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R6606	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R6607	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6608	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6609	VRS-CZ1JF153J		15k	1/16W Metal Oxide	AA
R6612	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R6614	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R6615	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R6616	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6617	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6618	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R6619	VRS-CZ1JF392J		3.9k	1/16W Metal Oxide	AA
R6628	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6629	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6630	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R6632	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R6633	VRS-CZ1JF222J		2.2k	1/16W Metal Oxide	AA
R6634	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6635	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6636	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R6637	VRS-CZ1JF392J		3.9k	1/16W Metal Oxide	AA
R6646	VRS-CZ1JF472J		4.7k	1/16W Metal Oxide	AA
R6647	VRS-CZ1JF123J		12k	1/16W Metal Oxide	AA
R6648	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R6649	VRS-CZ1JF512J		5.1k	1/16W Metal Oxide	AB
R6650	VRS-CZ1JF473J		47k	1/16W Metal Oxide	AA
R6651	VRS-CZ1JF473J		47k	1/16W Metal Oxide	AA
R6652	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R6654	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R7800	VRS-CZ1JF151J		150	1/16W Metal Oxide	AA
R7801	VRS-CZ1JF272D		2.7k	1/16W Metal Oxide	AB
R7802	VRS-CZ1JF151J		150	1/16W Metal Oxide	AA
R7803	VRS-CZ1JF272D		2.7k	1/16W Metal Oxide	AB
R7804	VRS-CZ1JF151J		150	1/16W Metal Oxide	AA
R7805	VRS-CZ1JF272D		2.7k	1/16W Metal Oxide	AB
R7806	VRS-CZ1JF393J		39k	1/16W Metal Oxide	AA
R7807	VRS-CZ1JF303J		30k	1/16W Metal Oxide	AA
R7808	VRS-CZ1JF823J		82k	1/16W Metal Oxide	AA
R7809	VRS-CZ1JF393J		39k	1/16W Metal Oxide	AA
R7810	VRS-CZ1JF303J		30k	1/16W Metal Oxide	AA
R7811	VRS-CZ1JF823J		82k	1/16W Metal Oxide	AA
R7812	VRS-CZ1JF393J		39k	1/16W Metal Oxide	AA
R7813	VRS-CZ1JF303J		30k	1/16W Metal Oxide	AA
R7814	VRS-CZ1JF823J		82k	1/16W Metal Oxide	AA

Ref. No.	Part No.	★		Description	Code
R7827	VRS-CZ1JF105J		1M	1/16W Metal Oxide	AA
R7841	VRS-CZ1JF333J		33k	1/16W Metal Oxide	AA
R7843	VRS-CZ1JF333J		33k	1/16W Metal Oxide	AA
R7847	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R7851	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R7852	VRS-CZ1JF103J		10k	1/16W Metal Oxide	AA
R7854	VRS-CZ1JF823J		82k	1/16W Metal Oxide	AA
R7855	VRS-CZ1JF563J		56k	1/16W Metal Oxide	AA
R7856	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R7857	VRS-CZ1JF564J		560k	1/16W Metal Oxide	AA
R7858	VRS-CZ1JF564J		560k	1/16W Metal Oxide	AA
R7860	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R8807	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R8808	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R8809	VRS-CZ1JF102J		1k	1/16W Metal Oxide	AA
R8818	VRS-CZ1JF223J		22k	1/16W Metal Oxide	AA
R8820	VRS-CZ1JF123J		12k	1/16W Metal Oxide	AA
R8827	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R8846	VRS-CZ1JF100J		10	1/16W Metal Oxide	AA
R8847	VRS-CZ1JF100J		10	1/16W Metal Oxide	AA
R8848	VRS-CZ1JF100J		10	1/16W Metal Oxide	AA
R8850	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R8860	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R8861	VRS-CZ1JF104J		100k	1/16W Metal Oxide	AA
R8863	VRS-CZ1JF332J		3.3k	1/16W Metal Oxide	AA
R8864	VRS-CZ1JF102D		1k	1/16W Metal Oxide	AA
R8865	VRS-CZ1JF102D		1k	1/16W Metal Oxide	AA
R8866	VRS-CZ1JF561J		560	1/16W Metal Oxide	AA
R8867	VRS-CZ1JF153J		15k	1/16W Metal Oxide	AA
R8868	VRS-CZ1JF123D		12k	1/16W Metal Oxide	AA
R8869	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R8871	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R8874	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA
R8884	VRS-CZ1JF000J		0	1/16W Metal Oxide	AA

BALUNES

FB35	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB101	RBLN-0028TAZZ	Balun, BLN-0028TA	AB
FB201	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB202	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB204	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB3701	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB5019	RBLN-0242TAZZ∗	Balun, BLN-0242TA	AB
FB6605	RBLN-0242TAZZ∗	Balun, BLN-0242TA	AB
FB6610	RBLN-0242TAZZ∗	Balun, BLN-0242TA	AB
FB8800	RBLN-0028TAZZ	Balun, BLN-0028TA	AB
FB8802	RBLN-0028TAZZ	Balun, BLN-0028TA	AB

MISCELLANEOUS PARTS

P801	QPLGN0276TAZZ	Plug, 2Pin	AD
P1900	QCNCM7068TAZZ	Connector, 70Pin	AG
P5001	QCNCM9358TAZZ	Connector, 120Pin	AK
P6601	QPLGN0464TAZZ	Plug, 4Pin	AC
P6602	QPLGN0463TAZZ	Plug, 4Pin	AC
SC21	QSOCN2078TAZZ	Socket, 20Pin	AE
SC551	QSOCN2278TAZZ∗	Socket, 22Pin	AF
SC801	QSOCN1572TAZZ∗	Socket, 15Pin	AE
SC802	QSOCN1771TAZZ∗	Socket, 17Pin	AD
SC900	QSOCN1271TAZZ	Socket, 12Pin	AD
SC3301	QCNCW8080TAZZ	Connector, 80Pin	AH
SC5001	QSOCN2271TAZZ∗	Socket, 22Pin	AE
SC5002	QSOCN1772TAZZ∗	Socket, 17Pin	AE
SC5003	QSOCN4072TAZZ	Socket, 40Pin	AF
SC8801	QSOCN2278TAZZ∗	Socket, 22Pin	AF

DUNTK3045PM01
SUB PWB UNIT

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC401	VHiNJU7012F-1		NJU7012F, Amp	AE
IC405	VHiNJU7012F-1		NJU7012F, DC Amp	AE
IC407	RH-iX3455CEZZ		IX3455CE, Codec External Memory	AZ
IC408	RH-iX3455CEZZ		IX3455CE, ECC External Memory	AZ
IC452	RH-iX0809TAZZ		IX0809TA, Codec/ECC/ PCM/CLK. Gen/Dif	BM
IC1602	VHiPCM3003+-1		PCM3003+, 16Bit ADC/DAC	AN

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q7401	VS2SC5383F/-1		2SC5383F	AB
Q7402	VSRT1N441U/-1		RT1N441U	AB
Q7403	VS2SC5383F/-1		2SC5383F	AB

DIODES

Ref. No.	Part No.	★	Description	Code
D403	VHDHVU362//-1		HVU362	AE
D404	VHDHVU362//-1		HVU362	AE
D471	VHDHVU362//-1		HVU362	AE
D472	VHDHVU359TR-1		HVU359TR	AE

PACKAGED CIRCUIT

Ref. No.	Part No.	★	Description	Code
X401	RCRSC0160TAZZ		Crystal, CRSC0160TA	AH

COILS

Ref. No.	Part No.	★	Description	Code
FL403	RFiLC0164TAZZ		Filter, FiLC0164TA	AH
L402	VPMAN100MR50N		Peaking, 10µH	AC
L403	VPCEM470M3R7N		Peaking, 47µH	AC
L471	VPD9M100J1R7N		Peaking, 10µH	AC
L1601	VPMAN100MR50N		Peaking, 10µH	AC
L7400	VPMAN100MR50N		Peaking, 10µH	AC

CAPACITORS

Ref. No.	Part No.	★				Code
C401	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C402	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C403	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C404	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C405	VCKYCY1CB473K		0.047	16V	Ceramic	AA
C407	VCKYTV1CF225Z		2.2	16V	Ceramic	AC
C410	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C411	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C412	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C413	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C414	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C415	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C417	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C418	VCCCCZ1HH120J		12p	50V	Ceramic	AB
C419	VCCCCZ1HH120J		12p	50V	Ceramic	AB
C420	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C421	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C422	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C423	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C424	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C425	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C430	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C432	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C435	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C447	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C448	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C449	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C450	RC-KZ0101TAZZ		3.3	6.3V	Ceramic	AD
C451	VCKYCY0JB105K		1	6.3V	Ceramic	AC
C452	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C456	VCSATA0JJ156M		15	6.3V	Tantalum	AC
C460	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C462	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C463	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C465	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C467	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C468	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C473	VCKYCZ1AB104K		0.1	10V	Ceramic	AB
C474	VCKYCZ1AB104K		0.1	10V	Ceramic	AB
C1601	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C1602	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1603	VCKYTV1AB105K		1	10V	Ceramic	AD
C1604	VCKYTV1AB105K		1	10V	Ceramic	AD
C1605	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1607	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C1608	VCSATA0JJ106M		10	6.3V	Tantalum	AD
C1609	VCKYCZ1HB222K		2200p	50V	Ceramic	AB
C1610	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1611	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C1612	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1613	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C1614	VCKYCZ1HB222K		2200p	50V	Ceramic	AB
C1615	VCKYCZ1AF104Z		0.1	10V	Ceramic	AB
C1616	VCSATA1AJ475M		4.7	10V	Tantalum	AC
C1617	VCKYTV1CB224K		0.22	16V	Ceramic	AB
C7400	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C7401	RC-KZ0083TAZZ		2.2	10V	Ceramic	AD
C7402	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C7403	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C7404	VCKYCZ1EB472K		4700p	25V	Ceramic	AB
C7413	VCKYCZ1HB221K		220p	50V	Ceramic	AA
C7414	VCCCCZ1HH330J		33p	50V	Ceramic	AB
C7417	VCKYCY0JB105K		1	6.3V	Ceramic	AC

RESISTORS

Ref. No.	Part No.	★				Code
R406	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R407	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R409	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R410	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R411	VRS-CZ1JF154J		150k	1/16W	Metal Oxide	AA
R412	VRS-CZ1JF334J		330k	1/16W	Metal Oxide	AA
R413	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R414	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R416	VRS-CZ1JF823J		82k	1/16W	Metal Oxide	AA
R418	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R429	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R430	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R431	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R432	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R433	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R436	VRS-CZ1JF224J		220k	1/16W	Metal Oxide	AA
R437	VRS-CZ1JF224J		220k	1/16W	Metal Oxide	AA
R438	VRS-CZ1JF101J		100	1/16W	Metal Oxide	AA
R440	VRS-CZ1JF393J		39k	1/16W	Metal Oxide	AA
R441	VRS-CZ1JF563J		56k	1/16W	Metal Oxide	AA
R442	VRS-CZ1JF114J		110k	1/16W	Metal Oxide	AB
R443	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R446	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R454	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R462	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R467	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R468	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R469	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R471	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R477	VRS-CZ1JF823J		82k	1/16W	Metal Oxide	AA
R478	VRS-CZ1JF823J		82k	1/16W	Metal Oxide	AA
R480	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R1602	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R1603	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R1604	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R1610	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R1662	VRS-CY1JF000J		0	1/16W	Metal Oxide	AA
R5201	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R5202	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R5203	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R5204	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R5205	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R7401	VRS-CZ1JF561J		560	1/16W	Metal Oxide	AA
R7402	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R7403	VRS-CZ1JF273J		27k	1/16W	Metal Oxide	AA
R7410	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
R7413	VRS-CZ1JF512D		5.1k 1/16W Metal Oxide	AA
R7415	VRS-CZ1JF560D		56 1/16W Metal Oxide	AB
R7416	VRS-CZ1JF560D		56 1/16W Metal Oxide	AB
R7417	VRS-CZ1JF560D		56 1/16W Metal Oxide	AB
R7418	VRS-CZ1JF560D		56 1/16W Metal Oxide	AB
R7419	VRS-CZ1JF221J		220 1/16W Metal Oxide	AA
R7420	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R7422	VRS-CZ1JF392D		3.9k 1/16W Metal Oxide	AB
R7423	VRS-CZ1JF392D		3.9k 1/16W Metal Oxide	AB
R7424	VRS-CZ1JF242D		2.4k 1/16W Metal Oxide	AA
	BALUNES			
FB401	RBLN-0242TAZZ	∗	Balun, BLN-0242TA	AB
FB402	RBLN-0242TAZZ	∗	Balun, BLN-0242TA	AB
FB403	RBLN-0242TAZZ	∗	Balun, BLN-0242TA	AB
FB456	RBLN-0049TAZZ		Balun, BLN-0049TA	AD
FB7401	RBLN-0049TAZZ		Balun, BLN-0049TA	AD
	MISCELLANEOUS PART			
SC5201	QCNCW9389TAZZ		Connector, 120Pin	AL

DUNTK3046PM01(VL-WD250S/H/450S/H)
DUNTK3046PM02(VL-WD250E/EW/EX/WD450E/EW/EX)
CCD PWB UNIT

	INTEGRATED CIRCUIT			
IC2	VHiBR2416E2-1		BR2416E2, E^2PROM	AK
	TRANSISTOR			
Q2	VS2SC5384C/-1		2SC5384C	AB
	DIODE			
D1	VHDMC2852//-1		MC2852	AB
	CAPACITORS			
C1	VCSATE1VJ335M		3.3 35V Tantalum	AD
C2	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C3	VCSATA1CJ106M		10 16V Tantalum	AD
C4	VCKYCY1CB104K		0.1 16V Ceramic	AB
C5	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C6	VCKYCY1EB104K	∗	0.1 25V Ceramic	AB
C7	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C8	RC-KZ0084TAZZ		1 25V Ceramic	AC
C9	VCKYCY1CF104Z		0.1 16V Ceramic	AA
C10	VCSATJ1VJ685M		6.8 35V Tantalum	AE
C91	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C93	VCCCCZ1HH100D		10p 50V Ceramic	AB
	RESISTORS			
R2	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3	VRS-CZ1JF272J		2.7k 1/16W Metal Oxide	AA
R4	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R5	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R6	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R7	VRS-CZ1JF332J		3.3k 1/16W Metal Oxide	AA
R93	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R95	VRS-TV1JD000J		0 1/16W Metal Oxide	AA
	MISCELLANEOUS PART			
SC1	QCNCW2095TAZZ	∗	Connector, 20Pin	AG

DUNTK3071QA01
POWER PWB UNIT

	INTEGRATED CIRCUITS			
⚠ CP1	VHiCCP2E30/-1		CCP2E30, 1.2A 72V	AD
⚠ CP3	VHiCCP2E30/-1		CCP2E30, 1.2A 72V	AD
IC900	VHiMB3881++-1		MB3881++, Power_CTL	AT
IC9900	VHiNJM2143R-1		NJM2143R, 2.8V/2.4V Reg	AE

Ref. No.	Part No.	★	Description	Code
	TRANSISTORS			
Q900	VS2SC5383F/-1		2SC5383F	AB
Q960	VSCPH6702++-1		CPH6702++	AD
Q961	VSCPH6702++-1		CPH6702++	AD
Q962	VSCPH6702++-1		CPH6702++	AD
Q963	VSCPH6702++-1		CPH6702++	AD
Q964	VSFMMT619//-1		FMMT619	AE
Q965	VSCPH6702++-1		CPH6702++	AD
Q966	VSCPH6702++-1		CPH6702++	AD
Q967	VSCPH6702++-1		CPH6702++	AD
Q9900	VSHN1C01FU/-1		HN1C01FU	AC
Q9902	VSFMMT717//-1		FMMT717	AE
Q9903	VSHN1A01FU/-1	∗	HN1A01FU	AB
Q9904	VSHN1C01FU/-1		HN1C01FU	AC
Q9905	VS2SC4213B/-1		2SC4213B	AC
Q9906	VS2SC5383F/-1		2SC5383F	AB
Q9907	VSHN1A01FU/-1	∗	HN1A01FU	AB
Q9908	VS2SA1989R/-1		2SA1989R	AB
Q9909	VSHN1C01FU/-1		HN1C01FU	AC
Q9910	VSRN4984///-1		RN4984	AC
Q9911	VSNDS332P//-1		NDS332P	AD
Q9912	VSRN4990///-1		RN4990	AC
Q9913	VS2SC5383F/-1		2SC5383F	AB
Q9914	VSRT1N441U/-1		RT1N441U	AB
	DIODES			
D900	RH-EX1394CEZZ		Zener, EX1394CE	AB
D901	VHDDAN222//-1		DAN222	AA
D960	VHDMA133///-1		MA133	AB
D961	VHDMA2S111/-1		MA2S111	AC
	COILS			
L960	RCiLP0344TAZZ		Coil, 4.7µH	AD
L961	RCiLP0344TAZZ		Coil, 4.7µH	AD
L962	RCiLP0352TAZZ	∗	Coil, 100µH	AD
L963	RCiLP0271TAZZ		Coil, 33µH	AE
L964	RCiLP0271TAZZ		Coil, 33µH	AE
L965	RCiLP0271TAZZ		Coil, 33µH	AE
L966	RCiLP0271TAZZ		Coil, 33µH	AE
L967	RCiLP0271TAZZ		Coil, 33µH	AE
L968	RCiLP0271TAZZ		Coil, 33µH	AE
L969	RCiLP0271TAZZ		Coil, 33µH	AE
L970	VPMAN4R7MR37N		Peaking, 4.7µH	AC
L971	VPD9M100KR86N		Peaking, 10µH	AC
L972	VPD9M2R2MR32N	∗	Peaking, 2.2µH	AB
L974	VPBAM2R2M090N		Peaking, 2.2µH	AC
L975	VPBAM2R2M090N		Peaking, 2.2µH	AC
L9902	VPD9M4R7MR53N	∗	Peaking, 4.7µH	AB
	CAPACITORS			
C900	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C901	VCKYCY1CB104K		0.1 16V Ceramic	AB
C902	VCKYCZ1AB104K		0.1 10V Ceramic	AB
C903	VCKYCY1HB103K		0.01 50V Ceramic	AA
C904	VCKYCZ1AB473K		0.047 10V Ceramic	AB
C905	VCCCCZ1HH101J		100p 50V Ceramic	AB
C906	VCKYCY1AB224K		0.22 10V Ceramic	AB
C907	VCKYCY1AB224K		0.22 10V Ceramic	AB
C908	VCKYCZ1CB223K		0.022 16V Ceramic	AC
C909	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C910	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C911	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C913	VCKYCZ1HB221K		220p 50V Ceramic	AA
C914	VCKYCZ1HB221K		220p 50V Ceramic	AA
C915	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C916	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C917	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C918	VCKYCZ1HB471K		470p 50V Ceramic	AB
C919	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C920	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C921	VCKYCZ1HB102K		1000p 50V Ceramic	AB
C922	RC-KZ1025CEZZ		1 10V Ceramic	AB
C923	VCKYCY1CB104K		0.1 16V Ceramic	AB
C960	VCKYCZ1HB102K		1000p 50V Ceramic	AB

Ref. No.	Part No.	★	Description			Code
C961	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C962	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C963	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C964	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C965	RC-KZ0070TAZZ		4.7	16V	Ceramic	AD
C966	RC-KZ0054TAZZ		2.2	16V	Ceramic	AD
C968	RC-KZ0070TAZZ		4.7	16V	Ceramic	AD
C970	RC-KZ0070TAZZ		4.7	16V	Ceramic	AD
C971	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C972	RC-KZ0054TAZZ		2.2	16V	Ceramic	AD
C973	RC-KZ0054TAZZ		2.2	16V	Ceramic	AD
C974	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C975	RC-KZ0084TAZZ		1	25V	Ceramic	AC
C976	RC-KZ0084TAZZ		1	25V	Ceramic	AC
C977	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C978	RC-KZ0084TAZZ		1	25V	Ceramic	AC
C979	RC-KZ0055TAZZ		3.3	16V	Ceramic	AD
C980	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C981	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C982	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C983	VCKYTV1AB105K		1	10V	Ceramic	AD
C984	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C985	RC-KZ0044TAZZ		4.7	10V	Ceramic	AD
C987	VCKYTV1AB105K		1	10V	Ceramic	AD
C988	VCKYTV1AB105K		1	10V	Ceramic	AD
C992	VCKYTV1AB105K		1	10V	Ceramic	AD
C995	VCEAPJ0JW476M		47	6.3V	Electrolytic	AD
C9900	VCKYCZ1CB103K		0.01	16V	Ceramic	AB
C9901	VCKYCZ1HB102K		1000p	50V	Ceramic	AB
C9902	VCKYCY1EB104K∗		0.1	25V	Ceramic	AB
C9905	RC-KZ1025CEZZ		1	10V	Ceramic	AB
C9906	VCEAPJ1EW106M∗		10	25V	Electrolytic	AC
C9907	VCKYTV1AB105K		1	10V	Ceramic	AD
C9909	VCKYTV1AB105K		1	10V	Ceramic	AD
C9911	VCKYCY1EB104K∗		0.1	25V	Ceramic	AB
C9912	VCKYCZ1AB104K		0.1	10V	Ceramic	AB
C9913	VCKYCY1EB104K∗		0.1	25V	Ceramic	AB
C9914	VCKYCY1EB104K∗		0.1	25V	Ceramic	AB

RESISTORS

R900	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R901	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R902	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R903	VRS-CZ1JF683J		68k	1/16W	Metal Oxide	AA
R904	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R905	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R906	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R907	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R908	VRS-CZ1JF472J		4.7k	1/16W	Metal Oxide	AA
R909	VRS-CZ1JF123J		12k	1/16W	Metal Oxide	AA
R910	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R911	VRS-CZ1JF153D		15k	1/16W	Metal Oxide	AB
R912	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R913	VRS-CZ1JF822J		8.2k	1/16W	Metal Oxide	AA
R915	VRS-CZ1JF562D		5.6k	1/16W	Metal Oxide	AB
R916	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R918	VRS-CZ1JF473J		47k	1/16W	Metal Oxide	AA
R920	VRS-CZ1JF273D		27k	1/16W	Metal Oxide	AA
R921	VRS-CZ1JF302D		3k	1/16W	Metal Oxide	AA
R927	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R929	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R930	VRS-CZ1JF273D		27k	1/16W	Metal Oxide	AA
R931	VRS-CZ1JF272D		2.7k	1/16W	Metal Oxide	AB
R932	VRS-CZ1JF333J		33k	1/16W	Metal Oxide	AA
R934	VRS-CZ1JF223J		22k	1/16W	Metal Oxide	AA
R935	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R936	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R937	VRS-CZ1JF223D		22k	1/16W	Metal Oxide	AB
R939	VRS-CZ1JF333D		33k	1/16W	Metal Oxide	AB
R940	VRS-CZ1JF122D		1.2k	1/16W	Metal Oxide	AB
R941	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R943	VRS-CZ1JF104D		100k	1/16W	Metal Oxide	AB
R944	VRS-CZ1JF473D		47k	1/16W	Metal Oxide	AB
R946	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R947	VRS-CZ1JF333D		33k	1/16W	Metal Oxide	AB
R948	VRS-CZ1JF184J		180k	1/16W	Metal Oxide	AA
R950	VRS-CZ1JF153D		15k	1/16W	Metal Oxide	AB
R951	VRS-CZ1JF331D		330	1/16W	Metal Oxide	AA
R953	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R954	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R957	VRS-CZ1JF102J		1k	1/16W	Metal Oxide	AA
R960	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R961	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R962	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R963	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R964	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R965	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R966	VRS-CZ1JF471J		470	1/16W	Metal Oxide	AA
R971	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R972	VRS-CZ1JF183J		18k	1/16W	Metal Oxide	AA
R978	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R981	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R982	VRS-CZ1JF272D		2.7k	1/16W	Metal Oxide	AB
R9900	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R9901	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R9902	VRS-CZ1JF561J		560	1/16W	Metal Oxide	AA
R9903	VRS-CZ1JF393D		39k	1/16W	Metal Oxide	AB
R9904	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R9905	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R9907	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R9908	VRS-CZ1JF472D		4.7k	1/16W	Metal Oxide	AB
R9910	VRS-CZ1JF333D		33k	1/16W	Metal Oxide	AB
R9912	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R9913	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R9914	VRS-CZ1JF331J		330	1/16W	Metal Oxide	AA
R9915	VRS-CZ1JF243J		24k	1/16W	Metal Oxide	AA
R9917	VRS-CZ1JF000J		0	1/16W	Metal Oxide	AA
R9919	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R9920	VRS-CZ1JF103J		10k	1/16W	Metal Oxide	AA
R9921	VRS-CZ1JF153J		15k	1/16W	Metal Oxide	AA
R9923	VRS-CZ1JF433D		43k	1/16W	Metal Oxide	AA
R9926	VRS-CZ1JF682J		6.8k	1/16W	Metal Oxide	AA
R9927	VRS-CZ1JF223D		22k	1/16W	Metal Oxide	AB
R9928	VRS-CZ1JF393D		39k	1/16W	Metal Oxide	AB
R9929	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R9930	VRS-CZ1JF103D		10k	1/16W	Metal Oxide	AB
R9931	VRS-CZ1JF105J		1M	1/16W	Metal Oxide	AA
R9932	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA
R9933	VRS-CZ1JF104J		100k	1/16W	Metal Oxide	AA

BALUNES

FB961	RBLN-0049TAZZ	Balun, BLN-0049TA	AD
FB9900	RBLN-0049TAZZ	Balun, BLN-0049TA	AD

MISCELLANEOUS PART

SC901	QCNCW7068TAZZ	Connector, 70Pin	AG

DUNTK3048QA02
LCD PWB UNIT

TRANSISTORS

Q3802	VSHN1B04FU/-1	HN1B04FU	AC
Q3803	VSHN1B04FU/-1	HN1B04FU	AC
Q9800	VS2SC5383F/-1	2SC5383F	AB
Q9801	VSCPH3209//-1	CPH3209	AD
Q9802	VSCPH3209//-1	CPH3209	AD
Q9803	VSHN1B04FU/-1	HN1B04FU	AC

DIODES

D3800	RH-EX1399CEZZ	Zener, 9.1V	AB
D9800	RH-EX1394CEZZ	Zener, 5.6V	AB

PACKAGED CIRCUIT

TH9800	VHHT1103K44-1	Thermistor	AD

COILS AND TRANSFORMER

L9800	RCiLP0344TAZZ	Coil, CiLP0344TA	AD

Ref. No.	Part No.	★	Description	Code
L9801	RCiLP0287TAZZ		Coil, CiLP0287TA	AD
⚠ T9800	RTRNZ0157TAZZ		Transformer	AL
	CAPACITORS			
C3802	RC-KZ0084TAZZ		1 25V Ceramic	AC
C3803	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C3804	VCKYTV1AB105K		1 10V Ceramic	AD
C3806	VCKYCY0JB105K		1 6.3V Ceramic	AC
C3807	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C3814	VCKYCY1EB104K	∗	0.1 25V Ceramic	AB
C3815	VCKYCZ1HF103Z		0.01 50V Ceramic	AB
C3818	VCKYCY0JB105K		1 6.3V Ceramic	AC
C3820	VCSATA1DJ475M		4.7 20V Tantalum	AC
C3821	VCSATA1DJ475M		4.7 20V Tantalum	AC
C9803	RC-KZ0055TAZZ		3.3 10V Ceramic	AD
C9804	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C9805	VCKYCZ1AF104Z		0.1 10V Ceramic	AB
C9806	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C9807	RC-CZ0057TAZZ		0.015 25V Ceramic	AD
C9810	VCKYCY1HB332K		3300p 50V Ceramic	AA
C9811	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C9812	VCKYCZ1CB103K		0.01 16V Ceramic	AB
C9813	RC-KZ0351CEZZ		18p 3kV Ceramic	AD
	RESISTORS			
R3800	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3801	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R3805	VRS-CZ1JF104J		100k 1/16W Metal Oxide	AA
R3807	VRS-CZ1JF105J		1M 1/16W Metal Oxide	AA
R3809	VRS-CZ1JF223J		22k 1/16W Metal Oxide	AA
R3810	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R3811	VRS-CZ1JF472J		4.7k 1/16W Metal Oxide	AA
R3812	VRS-CZ1JF100J		10 1/16W Metal Oxide	AA
R3813	VRS-CZ1JF100J		10 1/16W Metal Oxide	AA
R3814	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R3819	VRS-CZ1JF102J		1k 1/16W Metal Oxide	AA
R3821	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3822	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3823	VRS-CZ1JF101J		100 1/16W Metal Oxide	AA
R3824	VRS-CZ1JF221J		220 1/16W Metal Oxide	AA
R3831	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R9807	VRS-CZ1JF103J		10k 1/16W Metal Oxide	AA
R9808	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
R9809	VRS-CZ1JF121J		120 1/16W Metal Oxide	AA
R9810	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R9811	VRS-CZ1JF152J		1.5k 1/16W Metal Oxide	AA
R9812	VRS-CZ1JF362D		3.6k 1/16W Metal Oxide	AB
R9813	VRS-CZ1JF472D		4.7k 1/16W Metal Oxide	AB
R9814	VRS-CZ1JF182D		1.8k 1/16W Metal Oxide	AB
R9815	VRS-CZ1JF103D		10k 1/16W Metal Oxide	AB
R9816	VRS-CZ1JF271D		270 1/16W Metal Oxide	AB
R9817	VRS-CZ1JF271D		270 1/16W Metal Oxide	AB
R9818	VRS-CZ1JF473J		47k 1/16W Metal Oxide	AA
	BALUNES			
FB3801	RBLN-0028TAZZ		Balun, BLN-0028TA	AB
FB3802	RBLN-0028TAZZ		Balun, BLN-0028TA	AB
FB9800	RBLN-0028TAZZ		Balun, BLN-0028TA	AB
	MISCELLANEOUS PARTS			
SC3800	QSOCN1572TAZZ	∗	Socket, 15Pin	AE
SC3801	QSOCN1572TAZZ	∗	Socket, 15Pin	AE
SC3802	QSOCN2448TAZZ		Socket, 24Pin	AF
SC9800	QSOCN0412TAN1		Socket, 4Pin	AF

DUNTK3049PM03(VL-WD250S/H/E/EW/EX)
DUNTK3049PM04(VL-WD450S/H/E/EW/EX)
JOINT PWB UNIT

Ref. No.	Part No.	★	Description	Code
	CAPACITORS			
C2021	VCSATA1AJ106M		10 10V Tantalum (WD450S/H/E/EW/EX)	AC
C2042	VCKYCY0JF105Z		1 6.3V Ceramic	AB
	RESISTORS			
R2021	VRS-CZ1JF363D		36k 1/16W Metal Oxide	AA
R2022	VRS-CZ1JF123D		12k 1/16W Metal Oxide	AA
R2023	VRS-CZ1JF562D		5.6k 1/16W Metal Oxide	AB
R2024	VRS-CZ1JF362D		3.6k 1/16W Metal Oxide	AB
R2025	VRS-CZ1JF242D		2.4k 1/16W Metal Oxide	AA
R2026	VRS-CZ1JF152D		1.5k 1/16W Metal Oxide	AB
R2027	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
R2041	VRS-CZ1JF121J		120 1/16W Metal Oxide	AA
	MISCELLANEOUS PARTS			
	QTANS9041TAFW		Terminal	AD
	QTANS9042TAFW		Terminal	AC
	PMLT-0229TAZZ		Absorber	AB
	PMLT-0234TAZZ		Absorber	AC
SC2021	QSOCN4072TAZZ		Socket, 40Pin	AF
SC2022	QCNCW1481TAZZ		Connector, 14Pin	AE
SC2023	QSOCZ0072TAZZQ		Socket, 24Pin (WD450S/H/E/EW/EX)	AP
SC2024	QSOCN1271TAZZ		Socket, 12Pin	AD
SW2021	QSW-M0016TAZZ		Switch (WD450S/H/E/EW/EX)	AD
SW2022	QSW-P0108TAZZ		Switch	AF

DUNTK3050PM00(VL-WD450S/H/E/EW/EX)
DUNTK3050PM01(VL-WD250S/H/E/EW/EX)
REMOCON/IR PWB UNIT

Ref. No.	Part No.	★	Description	Code
	LED'S			
D2041	RH-PX0206TAZZ		PhotoDiode, PX0206TA (WD450S/H/E/EW/EX)	AH
D2042	RH-PX0206TAZZ		PhotoDiode, PX0206TA (WD450S/H/E/EW/EX)	AH
	MISCELLANEOUS PARTS			
P2041	QPLGN0527REZZ		Plug, 5Pin	AD
RMC2041	RRMCU0022TAZZ		Remote Receiver	AK
	LHLDZ1608TAZZ		Holder	AB

DUNTK3051PM01
DV/PC CONNECTION PWB UNIT

Ref. No.	Part No.	★	Description	Code
	COILS			
FL2001	RCiLF0391TAZZ		Coil, CiLF0391TA	AG
FL2002	RCiLF0391TAZZ		Coil, CiLF0391TA	AG
FL2003	RCiLF0399TAZZ		Coil, CiLF0399TA	AG
FL2004	RCiLF0391TAZZ		Coil, CiLF0391TA	AG
	CAPACITORS			
C2001	VCKYCZ1HB332K		3300p 50V Ceramic	AA
C2002	VCKYCZ1HB332K		3300p 50V Ceramic	AA
	RESISTOR			
R2001	VRS-CZ1JF000J		0 1/16W Metal Oxide	AA
	MISCELLANEOUS PARTS			
J2001	QJAKZ0072TAZZ		Jack, DV Terminal	AG
J2002	QJAKE0090TAZZ		Jack, RS232C	AG
J2003	QJAKE0060TAZZ		Jack, Head Phone	AE
P2001	QPLGN0276TAZZ		Plug, 2Pin	AD
SC2001	QSOCN1778TAZZ	∗	Socket, 17Pin	AE

Ref. No.	Part No.	★	Description	Code

DUNTK3052PM00
OPERATION PWB UNIT

MISCELLANEOUS PARTS

SC2051	QSOCN1272TAZZ	Socket, 12Pin	AD
SW2051	QSW-K0100TAZZ∗	Switch, IR	AC
SW2052	QSW-K0100TAZZ∗	Switch, Rew	AC
SW2053	QSW-K0100TAZZ∗	Switch, PB	AC
SW2054	QSW-K0100TAZZ∗	Switch, FF	AC
SW2055	QSW-K0100TAZZ∗	Switch, Stop	AC
SW2056	QSW-K0100TAZZ∗	Switch, Gamma	AC
SW2057	QSW-K0100TAZZ∗	Switch, Auto-On/Off	AC
SW2058	QSW-K0100TAZZ∗	Switch, Menu/Disp	AC
SW2059	QSW-S0210TAZZ	Switch, Card/Tape SW	AD
TP2051	QLUGP0111TAFW	Lug	AA

DUNTK3053PM01
AVS DC JACK PWB UNIT

DIODE

D2011	VHDDAN222//-1	DAN222	AA

COILS

FL2011	RCiLF0391TAZZ	Coil, CiLF0391TA	AG
FL2012	RCiLF0391TAZZ	Coil, CiLF0391TA	AG
FL2013	RCiLF0391TAZZ	Coil, CiLF0391TA	AG

RESISTORS

R2011	VRS-CZ1JF000J	0	1/16W	Metal Oxide	AA
R2012	VRS-CZ1JF000J	0	1/16W	Metal Oxide	AA
R2013	VRS-CZ1JF473J	47k	1/16W	Metal Oxide	AA
R2014	VRS-CZ1JF473J	47k	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

J2011	QSOCD0439CEZZ	Socket, 6Pin	AF
J2012	QJAKG0006TAZZ	Jack, Video/Audio-L/ Audio-R In Out	AK
SC2011	QSOCN2271TAZZ∗	Socket, 22Pin	AE
SC2012	QSOCN0560TAZZ	Socket, 5Pin	AC
SW2011	QSW-M0016TAZZ	Switch, Eject SW	AD
SW2012	QSW-S0211TAZZ∗	Switch, Cam/VCR SW	AF
SW2013	QSW-K0100TAZZ∗	Switch, REC S/S	AC
	QPWBH3058TAZZ	Printed Wiring Board	AF

DUNTK3054PM00
ZOOM-MIC JACK UNIT

MISCELLANEOUS PARTS

	QCNW-2020TAZZ	Connecting Cord	AF
J2041	QJAKE0079TAZZ	Jack, 4Pin	AG

DUNTK3056QA01
HEAD AMP PWB UNIT

INTEGRATED CIRCUITS

IC301	VHiBH7275KV-1	BH7275KV, Rec/PB Amp IC	AU
IC302	VHiBR24C04F-1	BR24C04F, E^{2}PROM IC	AG

TRANSISTORS

Q302	VS2SC4738Y/-1	2SC4738Y	AA
Q303	VS2SC4738Y/-1	2SC4738Y	AA

COIL

L301	VPD9M4R7MR53N∗	Peaking, 4.7µH	AB

CAPACITORS

C301	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C302	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C303	VCSATE1AJ336M	33	10V	Tantalum	AG
C304	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C305	VCCCCY1HH331J	330p	50V	Ceramic	AA
C306	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C307	VCCCCY1HH331J	330p	50V	Ceramic	AA
C308	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C309	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C310	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C311	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C312	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C313	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C314	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C315	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C318	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C319	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C320	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C321	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C322	VCKYCY0JB105K	1	6.3V	Ceramic	AC
C323	VCKYCZ1HB102K	1000p	50V	Ceramic	AB
C324	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C327	VCKYCZ1EB472K	4700p	25V	Ceramic	AB
C329	VCSATA1AJ106M	10	10V	Tantalum	AC
C330	VCKYCZ1HF103Z	0.01	50V	Ceramic	AB
C331	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C332	VCKYCZ1EB472K	4700p	25V	Ceramic	AB
C333	VCKYCZ1CB822K	8200p	16V	Ceramic	AB
C340	VCCCCZ1HH5R0C	5p	50V	Ceramic	AC
C342	VCCCCZ1HH5R0C	5p	50V	Ceramic	AC
C343	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C344	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB
C345	VCKYCZ1AF104Z	0.1	10V	Ceramic	AB

RESISTORS

R304	VRS-CZ1JF222J	2.2k	1/16W	Metal Oxide	AA
R308	VRS-CZ1JF122J	1.2k	1/16W	Metal Oxide	AA
R309	VRS-CZ1JF512J	5.1k	1/16W	Metal Oxide	AB
R310	VRS-CZ1JF433J	43k	1/16W	Metal Oxide	AA
R311	VRS-CZ1JF101J	100	1/16W	Metal Oxide	AA
R312	VRS-CZ1JF102J	1k	1/16W	Metal Oxide	AA
R313	VRS-CZ1JF822J	8.2k	1/16W	Metal Oxide	AA
R314	VRS-CZ1JF101J	100	1/16W	Metal Oxide	AA
R315	VRS-CZ1JF102J	1k	1/16W	Metal Oxide	AA
R316	VRS-CZ1JF473J	47k	1/16W	Metal Oxide	AA
R317	VRS-CZ1JF563J	56k	1/16W	Metal Oxide	AA
R318	VRS-CZ1JF513J	51k	1/16W	Metal Oxide	AA
R319	VRS-CZ1JF182J	1.8k	1/16W	Metal Oxide	AA
R320	VRS-CZ1JF182J	1.8k	1/16W	Metal Oxide	AA
R321	VRS-CZ1JF682J	6.8k	1/16W	Metal Oxide	AA
R324	VRS-CZ1JF222J	2.2k	1/16W	Metal Oxide	AA
R330	VRS-CZ1JF563J	56k	1/16W	Metal Oxide	AA
R332	VRS-CZ1JF102J	1k	1/16W	Metal Oxide	AA
R333	VRS-CZ1JF222J	2.2k	1/16W	Metal Oxide	AA
R377	VRS-CZ1JF000J	0	1/16W	Metal Oxide	AA
R380	VRS-TV1JD100J	10	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

SC301	QSOCN0925TAN1	Socket, 9Pin	AE
SC303	QSOCN1006TAN1	Socket, 10Pin	AE
SC304	QSOCN0706TAN1	Socket, 7Pin	AE
SC305	QSOCN2071TAZZ	Socket, 20Pin	AD
SC306	QSOCN1871TAZZ	Socket, 18Pin	AE
P306	QCNCM8082TAZZ	Connector, 80Pin	AK
	PSLDM3363TAFW	Shield	AB

DUNTK3063PM00
BATTERY TERMINAL PWB UNIT

MISCELLANEOUS PARTS

	QTANZ0140TAZZ	Battery Terminal	AM
	QPWBH3063TAZZ	FPC	AG

MECHANISM PARTS

Ref. No.	Part No.	★	Description	Code
301	LCHSM0181GEZZ		Main Chassis Ass'y	AQ
302	MLEVF0539GEFW		Eject Control Lever	AD
303	MLEVF0502GEFW		Pinch Control Lever	AD
304	NGERH3062GEFW		Main Cam	AD
305	MLEVF0503GEZZ		Shifter Drive Lever Ass'y	AE
306	MLEVF0505GEFW		Loading Lever	AD
307	MARMM0130GEZZ		S Loading Arm Ass'y	AF
308	MARMM0131GEZZ		Tu Loading Arm Ass'y	AF
309	MLEVF0508GEFW		T Arm Control Lever	AD
311	LANGG9121GEFW		CAP FPC Stopper	AD
312	LANGF9016GEZZ		Intermediate Gear ANG Ass'y	AG
313	MARMM0132GEZZ		Swing Arm Ass'y	AG
314	LANGJ0053GEFW		Mechanism Fixing Angle	AH
315	LANGJ0054GEFW		Head amp PWB ANG	AE
324	RDTCH0039GEZZ		Dew Sensor	AD
330	CCHSS0050GE02		FPC Affixing Slide Chassis	AZ
331	LCHSS0050GEZZ		Slide Chassis Ass'y	AN
332	CPWBH5910GE01		Sensor FPC Ass'y	AX
334	LHLDP0104GEZZ		S-LED Holder	AC
335	LHLDP0105GEZZ		Tu-LED Holder	AC
337	LHLDZ0115GEZZ		Sensor FPC Guide	AC
338	QSW-M0035TAZZ		Down SW	AC
339	QTANZ0006GEZZ		Mic Contact SW	AG
340	RH-PX0180TAZZ		Cassette LED	AE
341	RH-PX0181TAZZ		S/E Sensor	AF
342	RDTCM0006TAZZ		Reel Sensor	AC
344	LANGG9124GEFW		Slide Adjustment ANG	AC
345	LANGG9123GEFW		Down Guide	AE
347	TLABH0590GEZZ		Cassette Control Caution Label	AB
351	MLEVF0542GEZZ		Tension Arm Ass'y	AG
352	MLEVF0511GEZZ		Tu Guide Arm Ass'y	AG
353	MLEVF0512GEZZ		Brake Shifter Ass'y	AE
354	LBNDK3022GEZZ		Tension Band Ass'y	AF
355	LANGA0073GEZZ		Reel Cover Ass'y	AG
356	LANGJ0038GEFW		T Spring Hanging ANG	AC
357	MLEVP0302GEZZ		Swing Arm Release Lever	AC
360	MLEVP0329GEZZ		Eject Lever	AC
361	MLEVP0296GEZZ		Pinch Drive Lever	AB
362	PGiDM0156GEZZ		Guide Rail	AC
363	PGiDM0186GEZZ		T Arm Control Lever Stopper	AC
364	NGERH1300GEZZ		Intermediate Gear A Ass'y	AE
365	NGERH1301GEZZ		Intermediate Gear B Ass'y	AB
366	NPLYV0164GEZZ		Intermediate Pulley Ass'y	AC
367	NPLYV0165GEZZ		Center Pulley Ass'y	AC
369	NGERH1302GEZZ		AHC Cam	AB
370	NGERH1303GEZZ		Coupling Gear	AB
371	NGERH1304GEZZ		Sub Cam	AC
372	NGERH1305GEZZ		S Loading Gear	AC
373	NGERH1306GEZZ		Tu Loading Gear	AC
374	MLEVP0333GEZZ		S Main Brake	AC
375	MLEVP0309GEZZ		Tu Main Brake	AB
376	LHLDX1046GEZZ		S Cassette Stay	AC
377	LHLDZ2024GEZZ		FPC Cover	AB
381	PGiDP0031GEFW		Tu Pole	AD
382	PGiDS0046GEFW		T Roller Upper Flange	AE
383	PGiDS0047GEFW		T Roller Bottom Flange	AE
384	NSFTL0761GEFW		T Roller Inner	AE
385	PGiDP0042GEFW		S Guide Sleeve	AD
386	PGiDM0170GEZZ		Slide Chassis Guide	AC
389	MSPRP0186GEFJ		Tape Guide SPR.	AD
390	MSPRD0184GEFJ		Swing Arm Release SPR.	AC
391	MSPRT0417GEFJ		Main Brake SPR.	AB
392	MSPRT0436GEFW		T Arm SPR.	AB
393	MSPRD0178GEFJ		Tu Guide Arm SPR.	AB
394	MSPRD0179GEFJ		Pinch Lever Return SPR.	AB
395	MSPRD0180GEFJ		S Pressure SPR.	AB
396	MSPRD0181GEFJ		Tu Pressure SPR.	AB
397	MSPRC0220GEFJ		Guide Adjustment SPR.	AA
398	MSPRC0221GEFJ		Drum Fixing SPR.	AA
399	MSPRP0185GEZZ		PB Guide SPR.	AC
401	LX-WZ1071GE02		CW ø 0.7 ø 1.8t0.1	AC
402	LX-WZ1104GE06		CW ø 0.7 ø 2.2t0.25	AB
403	LX-WZ1029GE00		CW ø 1.2 ø 3t0.25	AA
411	LZ-WZ1105GE00		W ø 1.2 ø 2.5t0.13	AA
412	LZ-WZ1106GE00		W ø 1.2 ø 2.5t0.2	AA
413	XWHJZ12-03025		W ø 1.2 ø 2.5t0.3	AA
414	XWHJZ12-04025		W ø 1.2 ø 2.5t0.4	AA
415	XWHJZ12-05025		W ø 1.2 ø 2.5t0.5	AA
420	LX-BZ3202GEFF		Swing Arm Release Lever Fixing Screw	AC
421	LHLDZ2025GEZZ		Intermediate Gear Stopper	AB
425	LX-BZ0107GEFF		Special Screw M1.2 x L1	AB
426	LX-BZ0108GEFF		Special Screw M1.2 x L3.3	AA
428	LX-NZ0102GEFW		S Guide Hexagon Nut	AC
429	LX-BZ3203GEFF		Type 1 Minuteness Screw M1.4 x L1	AB
430	LX-BZ3223GEFN		Type 2 Minuteness Screw M1.4 x L2	AA
431	LX-BZ3135GEFF		Type 2 Minuteness Screw M1.4 x L1	AA
432	LX-BZ3201GEFF		Special Head Screw M1.4 x L2	AB
433	LX-BZ3132GEFF		Special Head Screw M1.4 x L1.5	AA
434	LX-BZ3131GEFN		Special Screw M1.4 x L1.6	AA
435	LX-HZ3089GEFF		S Tight Screw M1.4 x L2	AA
436	LX-HZ3076GEFF		S Tight Screw M1.4 x L3	AA
437	LX-HZ3088GEFF		L Motor Installation Screw	AB
438	LX-BZ3225GEFF		Drum Installation Screw	AC
439	LX-BZ3181GEFN		GR Lock Screw	AD
440	LX-HZ3084GEFF		S Tight Screw M1.4 x L4	AC
451	LPOLM0065GEZZ		Sup Pole Base Ass'y	AK
452	LPOLM0066GEZZ		Tu Pole Base Ass'y	AK
453	CGiDM0158GE02		Drum Base Ass'y	AN
454	NROLM0046GEZZ		Guide Roller Ass'y	AM
455	NROLM0045GEZZ		T Roller Ass'y	AK
456	NDAiV1076GEZZ		S Reel Base Ass'y	AM
457	NDAiV1077GEZZ		Tu Reel Base Ass'y	AK
458	MLEVF0526GEZZ		Pinch Lever Ass'y	AP
459	NBLTT0016GEZZ		Drive Belt	AD
461	RMOTM1080GEZZ		L Motor Ass'y	AQ
462	RMOTV1023GEZZ		Capstan Motor	AY
463	QSW-R0039GEZZ		Mode SW	AE
465	QPWBH5911GEZZ		LM/Mode FPC	AG
466	PDMP-0032GEZZ		Damper	AF
470	DDRMV0069TEV1		Drum Ass'y	BZ
500	DUNTK3056QA01		Head Amp PWB Unit	—
501	PSLDM3352TAFW		H/A FPC Shield Plate	AX
502	LANGG9125GEFW		Sensor FPC Cover	AC

CASSETTE CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
600	CHLDX3091GE02		Cassette Control Ass'y	AU
601	LHLDX3091GEZZ		Housing Ass'y	AT
602	LANGF9649GEZZ		Top Cover Ass'y	AG
603	MSPRT0434GEFJ		Lock SPR	AB
604	MSPRT0435GEFJ		UP-SPR	AB
610	TLABH0589GEZZ		Cassette Control Lock Label	AB
434	LX-BZ3131GEFN		Special Screw M1.4 x L1.6	AA

CABINET PARTS LIST

Ref. No.	Part No.	★	Description	Code
1	DCABA6222LM01		Cabinet A Preparation	AY
1-1-2	GCOVH1274TASA		DV Terminal Cover	AD
1-1-3	GCOVH1278TAZZ		Lid Lock Cover	AD
1-1-4	GFTAC1308TAKA		Cassette Lid	AN
1-1-5	JKNBP0221TASA		Cassette Lid Knob	AB
1-1-6	LANGK0594TAFW		Stay Rear	AD
1-1-7	LHLDZ1599TAZZ		Lid Lock	AD
1-1-8	MSPRT0062TAFJ		Lid Lock Spring	AB
1-1-9	NSFTZ0161TAFW		Cassette Lid Shaft	AB
1-1-10	PMLT-0217TAZZ		Cassette Lid Spacer A	AB
1-1-11	PMLT-0219TAZZ		Cassette Lid Spacer C	AB
1-1-12	PMLT-0224TAZZ		Cassette Lid Spacer D	AB
1-1-13	PSHEP0207TAZZ		Lock Blind Sheet	AB
1-1-14	UBNDT0137TASA		Handstrap	AL
1-1-15	QEARP0309TAZZ		Speaker Earth Sheet	AB
1-2	GCOVA1747TAKA		SP Cover	AC
1-3	LSTYM0034TAZZ		Stay Front Ass'y	AG
1-5	DUNTK3053PM01		AVS DC Jack Unit	—
1-6	DUNTK3051PM01		DV 232C HP Unit	—
2	DCABB6245LM01		Cabinet B Preparation (WD450S/H/E/EW/EX)	AW
2	DCABB6246LM01		Cabinet B Preparation (WD250S/H/E/EW/EX)	AW
2-1	CBTN-0336TA01		KS Operation Button	AM
2-1-1	JBTN-0332TASA		GUI Button	AF
2-3	GCOVH1277TASA		LCD Lock Cover	AB
2-4	JKNBP0222TASA		NR Change Knob	AE
2-5	JKNBP0223TASA		Mode Change Knob	AB
2-6	LHLDZ1605TAZZ		NR Change Knob Holder	AC
2-7	LHLDZ1606TAZZ		Mode Change Knob Holder	AC
2-8	PSPAZ0363TAZZ		LCD Catch Spacer	AA
2-9	TCAUH0284TAZZ		Card Caution Label (WD450S/H/E/EW/EX)	AA
2-10	TLABH0443TAZZ		Lithium Exchange Label	AB
2-11	PSHEP0206TAZZ		Tilt Blind Sheet	AC
2-12	DUNTK3052PM00		VCR Operation Unit	—
2-13	DUNTK3049PM04		Joint Unit (WD450S/H/E/EW/EX)	—
2-13	DUNTK3049PM03		Joint Unit (WD250S/H/E/EW/EX)	—
2-14	QCNW-2038TAZZ		Wire with Lag	AC
3	CCOVA1743LM01		Top Side Cover Preparation	AN
3-2	PSPAG0133TAZZ		Terminal Floating Rubber	AB
4	DCOVA1753LM01		Battery Cover Preparation	AW
4-1-2	JBTN-0334TASA		S/S Button	AF
4-2	GCOVA1752TASA		Power Knob Cover	AH
4-3	GCOVH1273TASA		AV Terminal Cover	AE
4-4	HDECP0083TASA		Battery Nameplate	AC
4-5	HDECP0084TASA		AV Terminal Nameplate	AC
4-6	HDECP0090TASA		Power Hole Cover	AB
4-7	JBTN-0333TASA		Still Button	AF
4-8	JBTN-0337TASA		Power Lock Button	AB
4-9	JKNBP0218TASA		Battery Lock Knob	AE
4-10	JKNBP0220TASA		Power Lock Knob	AF
4-11	LANGK0600TAFW		Battery Lock Angle	AB
4-12	LHLDZ1598TAZZ		Power Knob Holder	AC
4-13	MSPRC0145TAFJ		Battery Lock Spring	AA
4-14	MSPRC0146TAFJ		Power Lock Spring	AA
4-15	PSHEP0184TAZZ		Battery Hole Cover	AB
5	DCOVA1759LM05		Front Cover Preparation	AT
5-1-2	GCOVA1744TASA		Lens Hood	AD
5-1-3	GCOVA1745TASA		Lens Hood Cover A	AD
5-1-4	GCOVA1746TASA		Lens Hood Cover B (WD450S/H/E/EW/EX)	AL
5-1-4	GCOVA1765TASA		Lens Hood Cover B (WD250S/H/E/EW/EX)	AH
5-1-5	GCOVA1761TASA		IR Remote Control Light Reception Cover	AD
5-1-6	HiNDP0244TASA		Lens Hood Nameplate	AE
5-1-7	QEARP0297TAZZ		Microphone Grille Earth Sheet	AB
5-1-8	GCOVA1760TASA		Front Decoration Cover	AC
5-2	HDECA0704TASA		Microphone Grille	AM
5-3	LHLDZ1607TAZZ		Microphone Holder	AC
5-4	PFLT-0036TAZZ		Microphone Spacer	AB
5-5	PMLT-0222TAZZ		Microphone Grille Sound Insulation Molt	AB
6-1	LANGK0606TAFW		Lens Fitting Angle	AF
7-1	GCOVA1750TAKA		V/F Cover Upper	AK
7-2	GCOVA1751TAKA		V/F Cover Lower	AK
7-3	GCOVD1010TAZZ		V/F LCD Protection Cover	AB
7-4	GCOVH1272TA00		Eye Cap	AP
7-5	GCOVH1275TAZZ		V/F Front Cover Unit	AE
7-6	JKNBZ0096TASA		Visibility Control Knob	AB
7-7	LANGK0602TAZZ		V/F Tilt Unit	AM
7-8	LANGK0605TA00		V/F Fitting Angle	AH
7-9	LHLDZ1602TAZZ		V/F LCD Inverter Holder	AC
7-10	LHLDZ1603TAZZ		V/F Back Holder	AC
7-11	MSPRP0217TAFW		Visibility Control Spring	AB
7-12	PFLT-0037TAZZ		V/F FPC Spacer	AA
7-13	PFLT-0038TAZZ		V/F Angle Spacer	AA
7-14	PLNSV0009TAN2		V/F Lens Unit	AH
7-15	PSHEP0198TAZZ		V/F Angle Sheet	AB
7-16	PSPAG0134TAZZ		V/F LCD Spacer	AF
7-17	PSPAG0135TAZZ		V/F Backlight Spacer	AF
7-18	PSPAZ0386TAZZ		V/F Spacer	AB
7-19	PSPAZ0398TAZZ		V/F Visibility Spacer	AB
7-20	RLCDV0068TAZZ		V/F LCD Panel	BM
7-21	KLMPV0052TAZZ		V/F Backlight	AT
7-22	RUNTK0397TAZZ		V/F FPC Unit	AX
8-1	CANGK0598LM01		LCD Shield Case Front Preparation	AH
8-1-2	PZETV0413TAZZ		LCD Insulation Sheet A	AA
8-2	CANGK0599LM01		LCD Shield Case Rear Preparation	AL
8-2-2	PSHEP0185TAZZ		LCD Spacer	AD
8-2-3	PTPEH0065TAZZ		LCD Fixing Tape	AF
8-3	CANGK0608LM01		LCD Tilt Unit Preparation	BB
8-3-1	GCOVA1748TASA		Tilt FPC Cover	AC
8-3-2	GCOVA1749TASA		Tilt Upper Cover	AF
8-4	CCABE6050LM01		LCD Cabinet Preparation	AV
8-4-2	HDECB0266TASA		LCD Nameplate (WD450S/H/E/EW/EX)	AP
8-4-2	HDECP0085TASA		LCD Nameplate (WD250S/H/E/EW/EX)	AE
8-4-3	JBTN-0335TASA		LCD Lock Lever	AC
8-4-4	MSPRD0081TAFJ		LCD Lock Spring	AB
8-4-5	QEARP0293TAFW		LCD Earth Plate (WD450S/H/E/EW/EX)	AC
8-4-6	GCOVA1754TAKA		LCD Decoration Cover	AD
8-5	GCOVA1756TAKA		LCD Front Cover	AL
8-7	PSHEP0108TA01		Prism Sheet	AG
8-8	PSHEP0110TAZZ		Diffusion Sheet	AD
8-9	PGiDM0036TAZZ		Light Guide Plate	AG
8-10	PMiR-0039TAZZ		Reflection Sheet	AD
8-11	DUNTK3048QA02		LCD PWB Unit	—
9	GCOVA1757TAKA		Bottom Cover	AG
9-1	PMLT-0227TAZZ		Power to Main Cushion	AB
9-2	PMLT-0226TAZZ		Sub to Main Cushion	AB
9-3	PMLT-0228TAZZ		Power to Joint Cushion	AB
9-4	PMLT-0228TAZZ		Sub to Joint Cushion	AB
9-5	PMLT-0229TAZZ		Joint to Main Cushion	AB
10	GFTAA1003TASA		Card Lid (WD450S/H/E/EW/EX)	AD
10	GCOVA1758TAKA		Card Lid (WD250S/H/E/EW/EX)	AC
11	LANGK0595TAFW		Mechanism Fitting Angle	AH
12	LANGT0467TASA		Shoe ANG	AE
13	PSPAG0132TA00		Mechanism Floating Rubber	AB
14	GCOVH1276TASA		Adjust Hole Cover	AC
16	TLABM2198TAZZ		Model Label(WD250S)	AC
16	TLABM2193TAZZ		Model Label(WD450S)	AC
16	TLABM2199TAZZ		Model Label(WD250H)	AC
16	TLABM2194TAZZ		Model Label(WD450H)	AC
16	TLABM2200TAZZ		Model Label(WD250E)	AC
16	TLABM2195TAZZ		Model Label(WD450E)	AC
16	TLABM2201TAZZ		Model Label(WD250EW)	AC

Ref. No.	Part No.	★	Description	Code
16	TLABM2196TAZZ		Model Label(WD450EW)	AC
16	TLABM2202TAZZ		Model Label(WD250EX)	AC
16	TLABM2197TAZZ		Model Label(WD450EX)	AC
17	QSW-Z0362TAZZ		Zoom SW Unit	AR
18	VSP0020P-968N		Speaker	AL
19	DUNTK3054TAZZ		Zoom Microphone PWB Unit	—
20	DUNTK3063PM00		Battery Terminal Unit	—
21	RMiCC0099TAZZ		Microphone	AT
22	PLNSA0142TAN1		Lens Unit	BX
23	QPWBH3060TAZZ		LCD FPC	AR
24	QSW-Z0364TAZZ		LCD Turn SW	AA
28	QPWBH3057TAZZ		Joint/Main FPC	AF
29	QPWBH3061TAZZ		DV/Main FPC	AE
30	CLMPV0055QA01		LCD Lamp	AU
31	CPNLC0064QA01		LCD Panel	BU
32	QPWBH3062TAZZ		Operation/Joint FPC	AD
a	LX-BZ0221TAFC		Screw	AB
b	LX-HZ0063TAFF		Screw	AA
c	XiPSF17P04000		Screw	AA
d	XiPSN17P04000		Screw	AA
e	LX-HZ0063TAFN		Screw	AA
f	LX-HZ0079TAFD		Screw	AB
h	LX-HZ0050TAFF		Screw	AA
j	LX-BZ0246TAFD		Screw	AB
k	LX-BZ0247TAFF		Screw	AB
l	LX-HZ0017TAFF		Screw	AA

CAMERA UNIT PARTS LIST

1	PFiLW0082TAZZ		Crystal Filter	AQ
2	PCOVM8016TA00		Dust Protection Rubber	AC
3	VHLiCX091AK-1		CCD Sensor	
4	LANGK0607TAFW		CCD Retaining Plate	AC
5	DUNTK3046PM01		CCD PWB Unit (WD250S/H/WD450S/H)	—
5	DUNTK3046PM02		CCD PWB Unit (WD250E/EW/EX/WD450E/EW/EX)	—
6	LX-HZ0013TAFF		Screw	AA
7	XiPSN17P02000		Screw(1.7 X 2)	AA
8	QPWBH3059TAZZ		FPC	AF
9	PSLDM3361TAFW		Shield Case	AD

Ref. No.	Part No.	★	Description	Code

SUPPLIED ACCESSORIES

ACCESSORIES

⚠	QACCB0016TAZZ		AC Cable (WD250H/EW/WD450H/EW)	AV
⚠	QACCK0006TAZZ		AC Cable (WD250S/E/WD450S/E)	AL
⚠	QACCL0026TAZZ		AC Cable (WD250EX/WD450EX)	AN
	QCNW-2016TAZZ		A/V Cable (WD250E/EW/EX/WD450E/EW/EX)	AH
	QCNW-2047TAZZ		A/V Cable (WD250S/H/WD450S/H)	AS
	QCNW-2022TAZZ		232C Cable (WD450S/E/EW/EX)	AS
	QCNW-2046TAZZ		S Cable (WD250S/H/WD450S/H)	AR
	QCNW-1957TAZZ		DC Cable	AT
	RRMCG0100TASA		Remote Control (WD450S/H/E/EW/EX)	AN
	RRMCG0101TASA		Remote Control (WD250S/H/E/EW/EX)	AN
	TiNS-6043TAZZ		Pix Lab Use Article (WD450S/E/EW/EX)	AC
	TiNS-6044TAZZ		Kodak Access Guide (WD450EX)	AC
	TiNSE0383TAZZ		Service Guide (WD250H/WD450H)	AC
	TiNSE0405TAZZ		Operation Manual(English) (WD450H)	AK
	TiNSE0406TAZZ		Quick Operation Guide (WD450H)	AE
	TiNSE0407TAZZ		Operation Manual(English) (WD250H)	AK
	TiNSE0408TAZZ		Quick Operation Guide (WD250H)	AE
	TiNSL0260TAZZ		Operation Manual (German/French)(WD450S)	AN
	TiNSL0261TAZZ		Operation Manual (Dutch/Italian/Spanish)(WD450S)	AQ
	TiNSL0262TAZZ		Operation Manual (Swedish/Portuguese/English) (WD450S)	AQ
	TiNSL0276TAZZ		Operation Manual (English/Chinese/Arabic) (WD450E/EX)	AQ
	TiNSL0277TAZZ		Operation Manual (English/Chinese/Arabic) (WD450EW)	AP
	TiNSL0278TAZZ		Operation Manual (German/French/Dutch/Italian) (WD250S)	AP
	TiNSL0279TAZZ		Operation Manual (Spanish/Swedish/Portuguese/ English)(WD250S)	AP
	TiNSL0280TAZZ		Operation Manual (English/Chinese/Arabic) (WD250E/EX)	AQ
	TiNSL0281TAZZ		Operation Manual (English/Chinese/Arabic) (WD250EW)	AP
⚠	UADP-0321TAZZ		AC Adapter	BG
	UBNDS0010TASA		Shoulder Strap	AH
	UBATL0011TAZZ		Lithium Battery	AE
	UBATi0053TAZZ		Battery Pack	BG
	UBATU0247AJZZ		AA Size Battery(x2)	AE
	CDSKA0059TA01		CD-ROM (WD450S/E/EW/EX)	AK
	CDSKA0060TA01		SmartMedia Card (WD450H/E/EW/EX)	BL
	GCOVH1271TASA		Lens Cap	AL
	RMiCC0098TAZZ		Zoom Microphone (WD450S/E/EW/EX)	BG

Ref. No.	Part No.	★	Description	Code
	PCOVN9001TAZZ		Wind Screen (WD450S/E/EW/EX)	AM
	SPAKA6367TAZZ		Microphone Cover (WD450S/E/EW/EX)	AK
	QPLGA0001AJZZ		Plug Converter (WD250E/WD450E)	AG

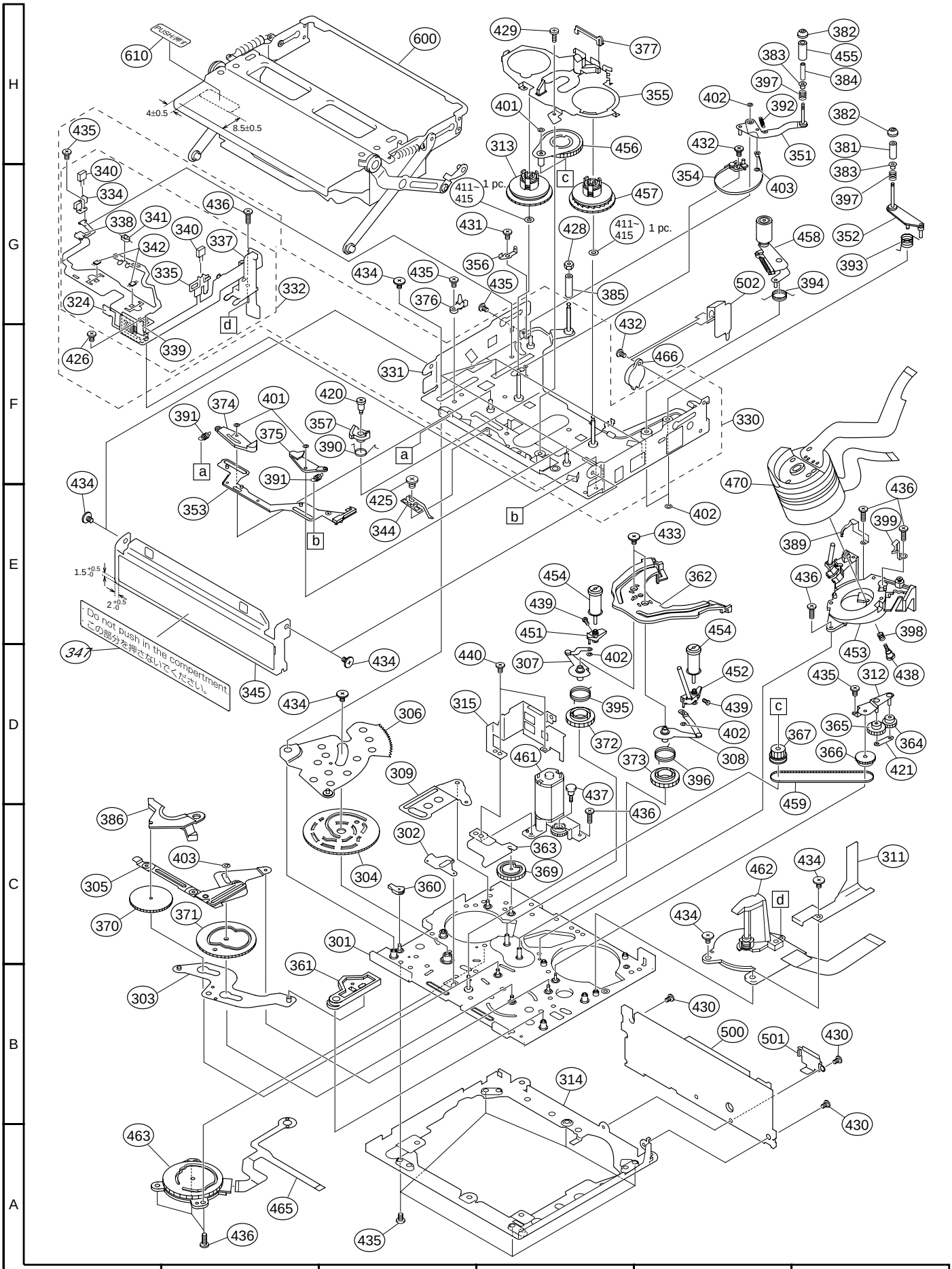
ACCESSORIES
(NOT REPLACEMENT ITEM)

	TGAN-0068PEZZ		Guarantee Card (WD250EX/WD450EX)	—
	TGANE0073TAZZ		Guarantee Card (WD250H/WD450H)	—
	TGANL0012TAZZ		Guarantee Card (WD250S/H/WD450S/H)	—
	TLABK0005AJZZ		No. Card(x3)	—

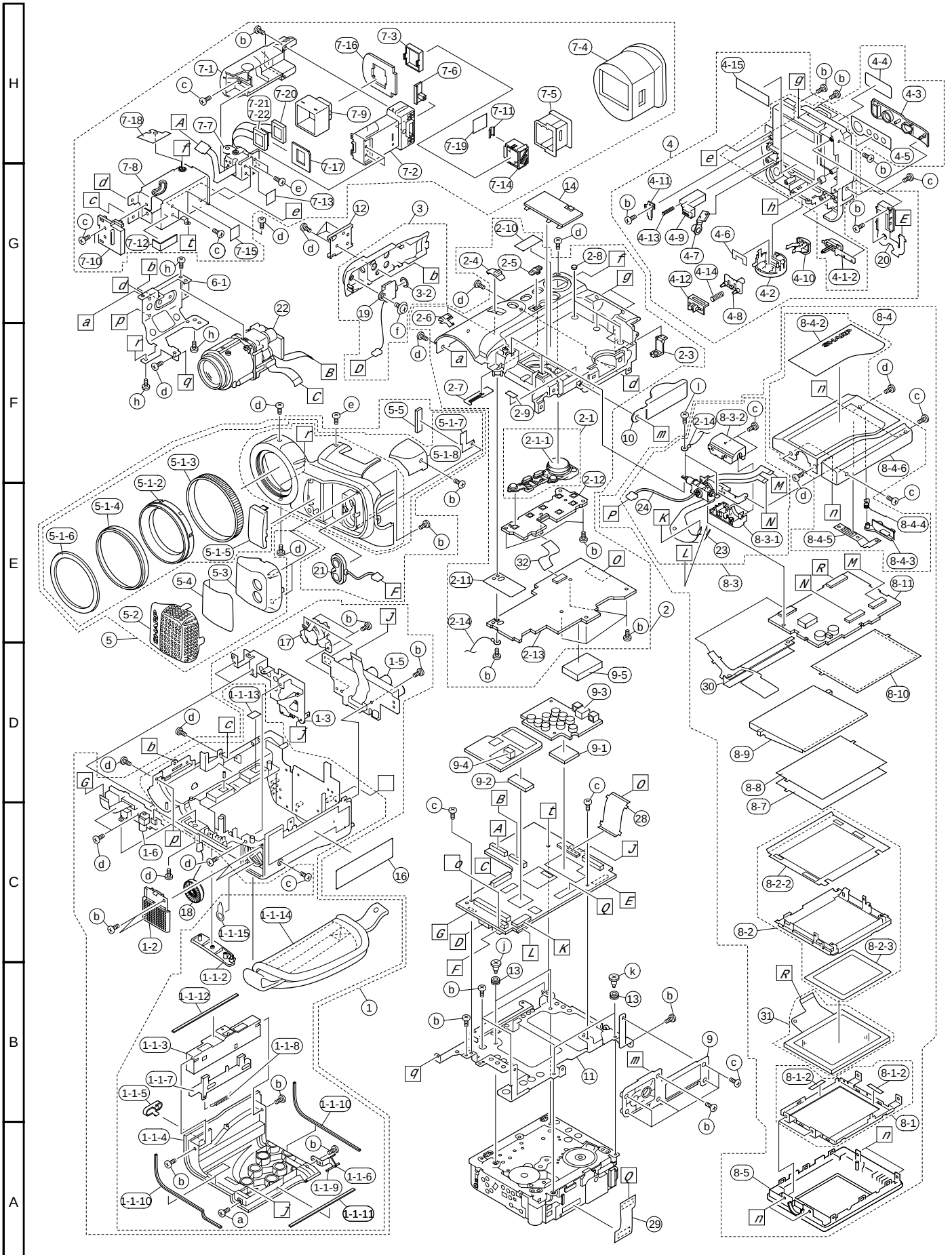
PACKING PARTS
(NOT REPLACEMENT ITEM)

	SPAKC7609TAZZ		Packing Case(WD450S)	—
	SPAKC7610TAZZ		Packing Case(WD450H)	—
	SPAKC7611TAZZ		Packing Case(WD450E/EX)	—
	SPAKC7612TAZZ		Packing Case(WD450EW)	—
	SPAKC7613TAZZ		Packing Case(WD250S)	—
	SPAKC7614TAZZ		Packing Case(WD250H)	—
	SPAKC7615TAZZ		Packing Case(WD250E/EX)	—
	SPAKC7616TAZZ		Packing Case(WD250EW)	—
	SPAKA6375TAZZ		Packing Add. (Bottom)	—
	SPAKA6376TAZZ		Packing Add. (Top)	—
	SPAKA6377TAZZ		Packing Add.	—
	SPAKF0277TAZZ		Packing Add.	—
	SPAKP6143TAZZ		Wrapping Paper	—
	SPAKP6144TAZZ		Side Pad	—
	SSAKA0105TAZZ		Plastic Bag (WD250H/E/EW/EX/ WD450H/E/EW/EX)	—
	SSAKA0110TAZZ		Plastic Bag(WD250S)	—
	SSAKA0116TAZZ		Plastic Bag(WD450S)	—

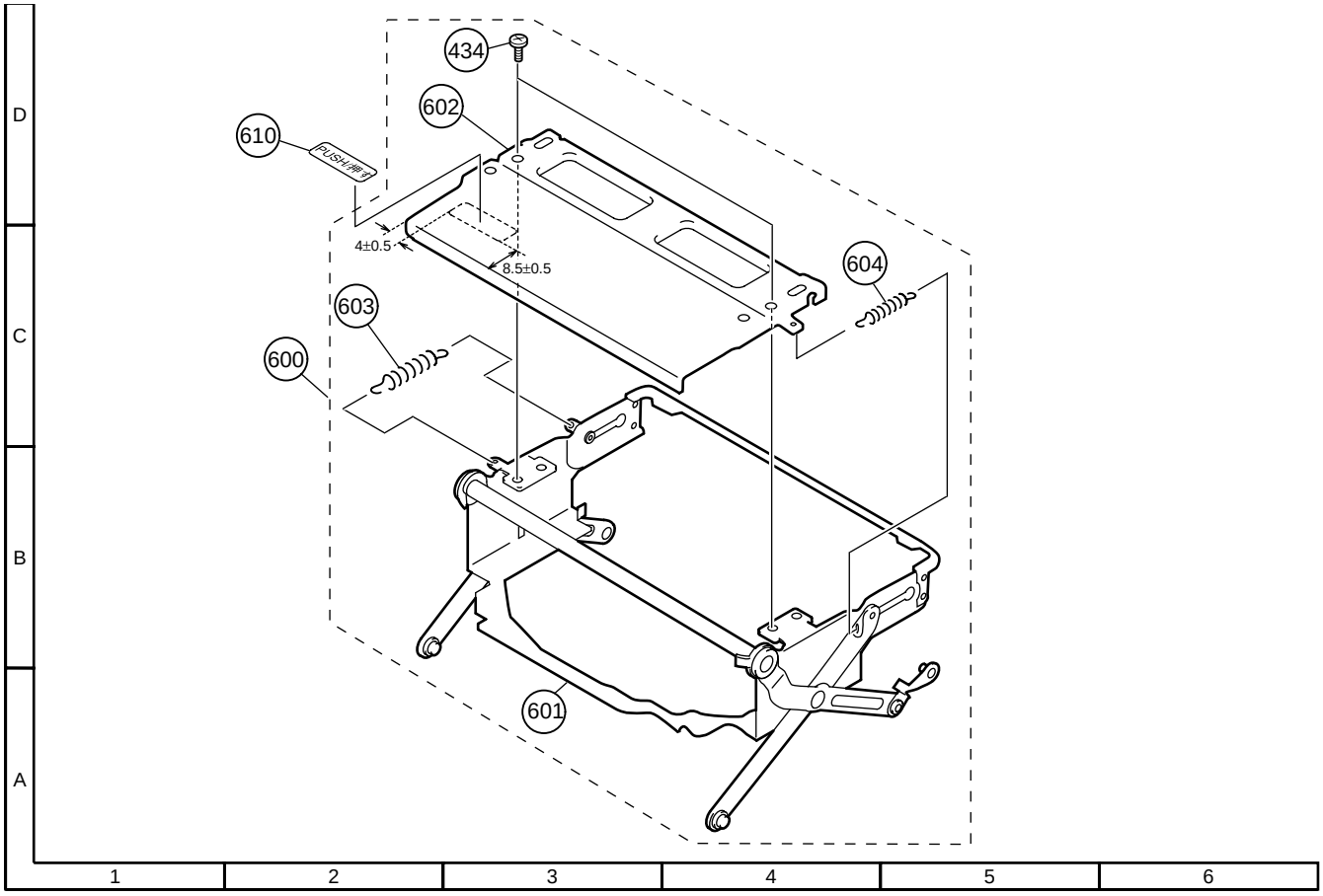
MECHANISM CHASSIS EXPLODED VIEW



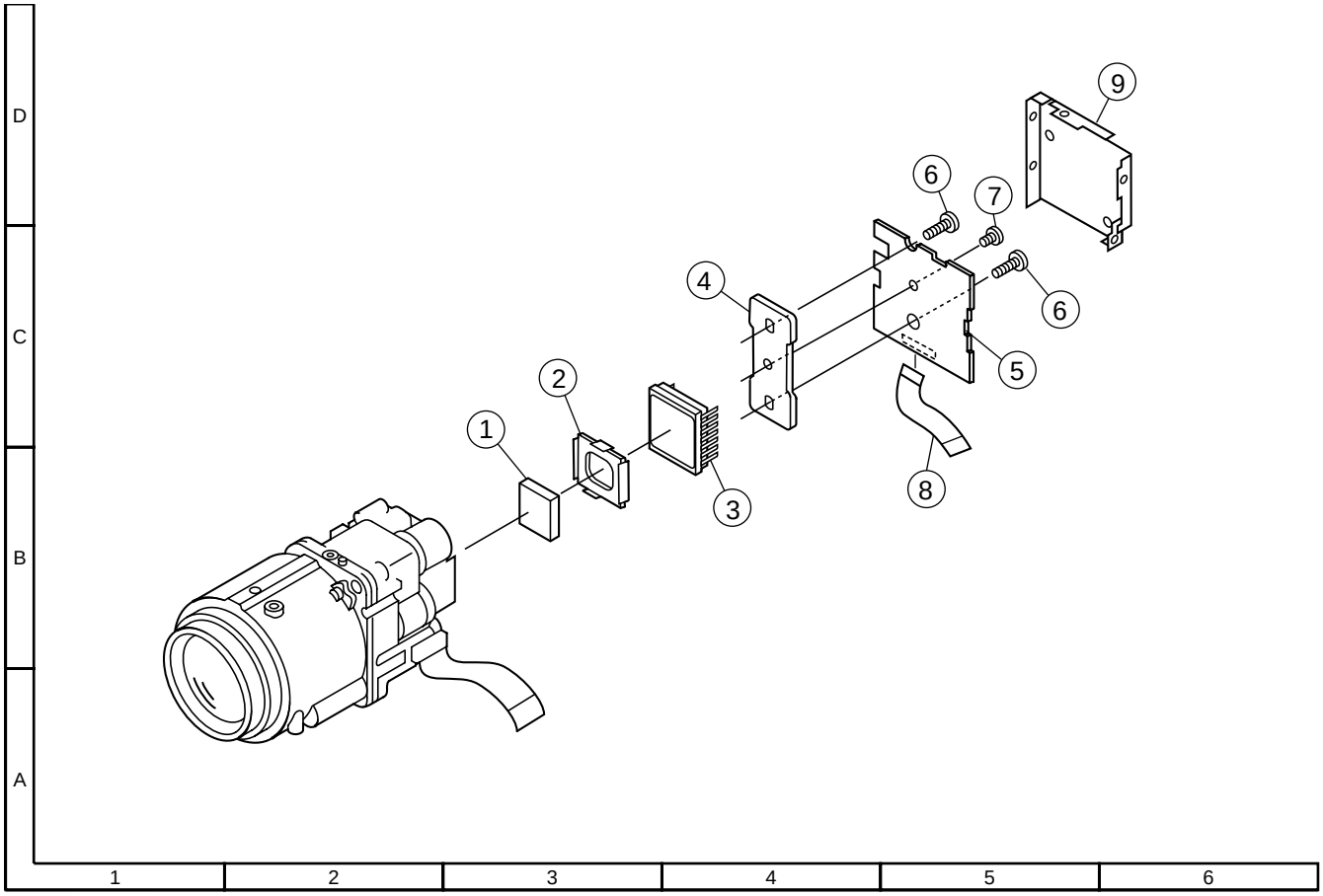
CABINET EXPLODED VIEW



CASSETTE CONTROL EXPLOOD VIEW



CAMERA UNIT EXPLOOD VIEW



VL-WD250S/H/E/WD450S/H/E SERVICE JIG SPECIFICATIONS

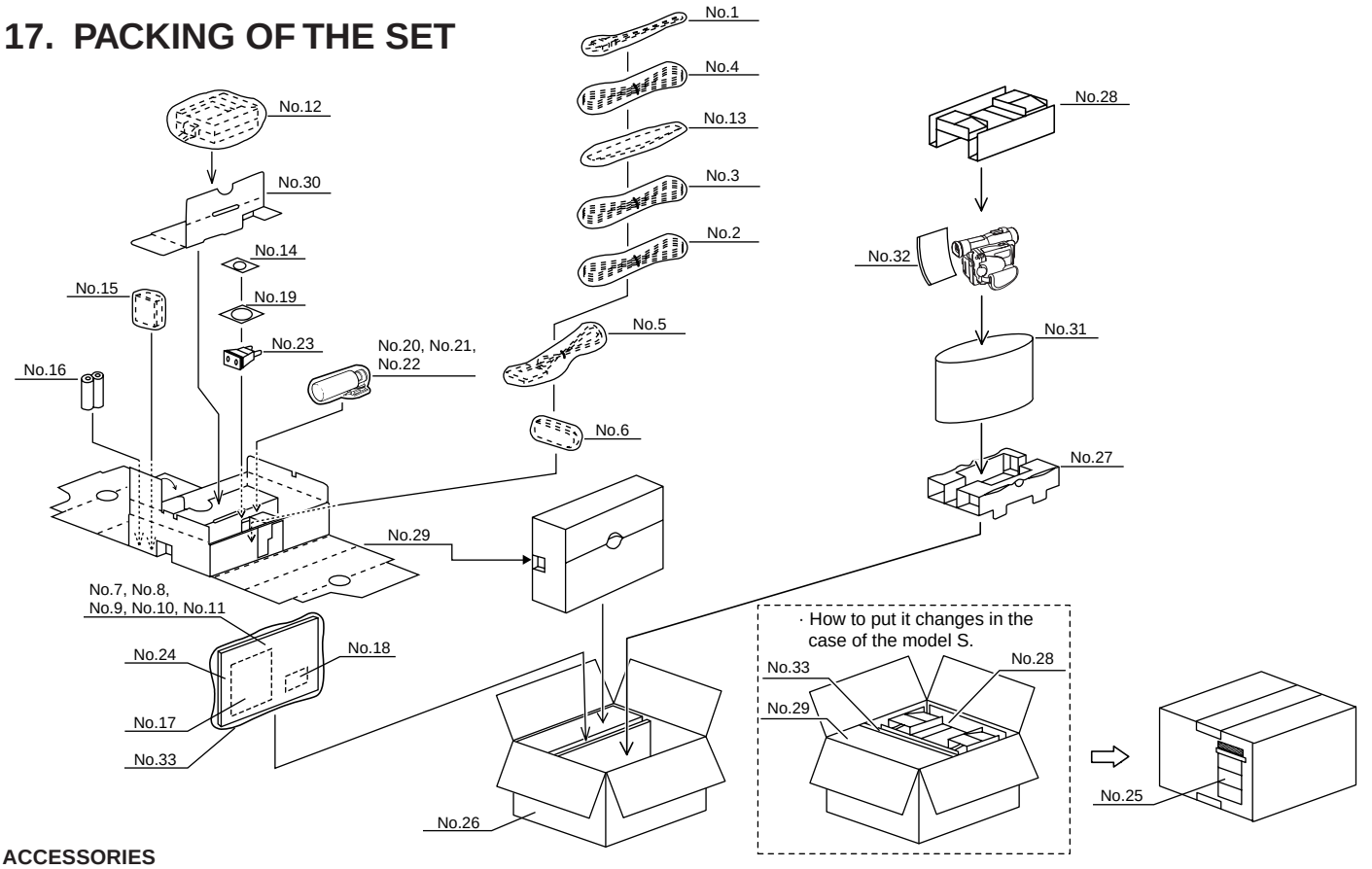
1-1. Adjusting jigs for checking the mechanism

No.	Name	New part	Type number, Application	Part code	Code
1	PB-use cassette torque meter		1mN·m/15mN·m	9DASD-1015	DB
2	Torque gauge		For use in VS-REW take up torque adjustment	JiGTG0045	CN
3	Torque gauge head		For use with the above torque gauge	9EQTGH-DH5000	BW
4	Tension gauge 4N		For measuring of pinch roller pressure	JiGSG0400	BK
5	Dial tension gauge		PTG-10	9DAPTG-10-10W	CA
6	Torque screwdriver 150mN·m		No. 0 cross bit, No. 00 cross bit	JiGTD1500RTDH	CB
7	Master plane		For checking the reel base height	9EQMP-VLPD1	CL
8	Height adjustment jig		For height adjusting	9DAHG-PD1	BZ
9	Height adjustment screwdriver		For guide roller adjustment. For Tu guide adjustment. For T roller adjustment. Bit shape.	9EQDRiVER-DH5	BC
10	Alignment tape - I		For tape running adjustment	VR3-GAZXS	CF
11	Alignment tape - II		For Switching Point adjustment	VR3-JPZQS	CG
12	For hexagon nut opposite side 3mm bit		For S guide hexagon nut installation.	95CM22001	BL
13	Reel hub for back tension measurement		Refer to Service Manual.	Prepared in the service station.	–
14	String for measuring the pinch roller pressure		Refer to Service Manual.	Prepared in the service station.	–

1-2. Parts for periodical inspection and maintenance

No.	Name	New part	Type number, Application	Part code	Code
1	OiL		Cosumo Hydro HV22	9EQ-OiL-HV22	AE
2	Cleaning paper		Dusper ∑ (SIGMA) ozu Co., LTD	JiGDUSPER	AP
3	Grease: Moly Coat YM-103		Dow coaning	99FGREASE-YM103	AH

17. PACKING OF THE SET



ACCESSORIES

No.	Model	Parts Code	Description	Remarks
1	WD250S/E/WD450S/E	QACCK0006TAZZ	AC Cable	⚠
	WD250H/EW/WD450H/EW	QACCB0016TAZZ	AC Cable	⚠
	WD250EX/WD450EX	QACCL0026TAZZ	AC Cable	⚠
2	WD250E/EW/EX WD450E/EW/EX	QCNW-2016TAZZ	A/V Cable	
	WD250S/H/WD450S/H	QCNW-2047TAZZ	A/V Cable	
3	WD450S/E/EW/EX	QCNW-2022TAZZ	232C Cable	
4	WD250S/H/WD450S/H	QCNW-2046TAZZ	S Cable	
5	– Common parts –	QCNW-1957TAZZ	DC Cable	
6	WD450S/H/E/EW/EX	RRMCG0100TASA	Remote Control	
	WD250S/H/E/EW/EX	RRMCG0101TASA	Remote Control	
7	WD450H	TiNSE0405TAZZ	Operation Manual(English)	
	WD250H	TiNSE0407TAZZ	Operation Manual(English)	
	WD450S	TiNSL0260TAZZ	Operation Manual(German/French)	
	WD450S	TiNSL0261TAZZ	Operation Manual(Dutch/Italian/Spanish)	
	WD450S	TiNSL0262TAZZ	Operation Manual (Swedish/Portuguese/English)	
	WD450E/EX	TiNSL0276TAZZ	Operation Manual (English/Chinese/Arabic)	
	WD450EW	TiNSL0277TAZZ	Operation Manual (English/Chinese/Arabic)	
	WD250S	TiNSL0278TAZZ	Operation Manual (German/French/Dutch/Italian)	
	WD250S	TiNSL0279TAZZ	Operation Manual(Spanish/ Swedish/Portuguese/English)	
	WD250E/EX	TiNSL0280TAZZ	Operation Manual (English/Chinese/Arabic)	
	WD250EW	TiNSL0281TAZZ	Operation Manual (English/Chinese/Arabic)	
8	WD450H	TiNSE0406TAZZ	Quick Operation Guide	
	WD250H	TiNSE0408TAZZ	Quick Operation Guide	
9	WD450S/E/EW/EX	TiNS-6043TAZZ	Pix Lab Use Article	
10	WD450EX	TiNS-6044TAZZ	Kodak Access Guide	
11	WD250H/WD450H	TiNSE0383TAZZ	Service Guide	
12	– Common parts –	UADP-0321TAZZ	AC Adapter	⚠
13	– Common parts –	UBNDS0010TASA	Shoulder Strap	
14	– Common parts –	UBATL0011TAZZ	Lithium Battery	
15	– Common parts –	UBATi0053TAZZ	Battery Pack	
16	– Common parts –	UBATU0247AJZZ	AA Size Battery(x2)	

No.	Model	Parts Code	Description	Remarks
17	WD450S/E/EW/EX	CDSKA0059TA01	CD-ROM	
18	WD450H/E/EW/EX	CDSKA0060TA01	SmartMedia Card	
19	– Common parts –	GCOVH1271TASA	Lens Cap	
20	WD450S/E/EW/EX	RMiCC0098TAZZ	Zoom Microphone	
21	WD450S/E/EW/EX	PCOVN9001TAZZ	Wind Screen	
22	WD450S/E/EW/EX	SPAKA6367TAZZ	Microphone Cover	
23	WD250E/WD450E	QPLGA0001AJZZ	Plug Converter	

ACCESSORIES *(NOT REPLACEMENT ITEM)*

No.	Model	Parts Code	Description	Remarks
24	WD250EX/WD450EX	TGAN-0068PEZZ	Guarantee Card	★
	WD250H/WD450H	TGANE0073TAZZ	Guarantee Card	★
	WD250S/H/WD450S/H	TGANL0012TAZZ	Guarantee Card	★
25	– Common parts –	TLABK0005AJZZ	No. Card(x3)	★

PACKING PARTS *(NOT REPLACEMENT ITEM)*

No.	Model	Parts Code	Description	Remarks
26	WD450S	SPAKC7609TAZZ	Packing Case	★
	WD450H	SPAKC7610TAZZ	Packing Case	★
	WD450E/EX	SPAKC7611TAZZ	Packing Case	★
	WD450EW	SPAKC7612TAZZ	Packing Case	★
	WD250S	SPAKC7613TAZZ	Packing Case	★
	WD250H	SPAKC7614TAZZ	Packing Case	★
	WD250E/EX	SPAKC7615TAZZ	Packing Case	★
	WD250EW	SPAKC7616TAZZ	Packing Case	★
27	– Common parts –	SPAKA6375TAZZ	Packing Add.(Bottom)	★
28	– Common parts –	SPAKA6376TAZZ	Packing Add.(Top)	★
29	– Common parts –	SPAKA6377TAZZ	Packing Add.	★
30	– Common parts –	SPAKF0277TAZZ	Packing Add.	★
31	– Common parts –	SPAKP6143TAZZ	Wrapping Bag	★
32	– Common parts –	SPAKP6144TAZZ	Side Pad	★
33	WD250H/E/EW/EX WD450H/E/EW/EX	SSAKA0105TAZZ	Plastic Bag	★
	WD250S	SSAKA0110TAZZ	Plastic Bag	★
	WD450S	SSAKA0116TAZZ	Plastic Bag	★

MARK ★ Not Replacement Item

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